

India Mark Handpump Specifications



India Mark Handpump Specifications

REVISION 2 - 2007

This RWSN Specification contains a full product definition for:

India Mark II Handpump,
India Mark III Handpump and
India Mark II, Extra Deep-well Handpump including:

- Manufacturing processes and inspection,
- Assembly and part drawings,
- Parts lists,
- Requirements for compliance with international standards.

The Specification results from work carried out by UNICEF Country Office in Delhi, India, together with various handpump manufacturers in India. The experience gained in recent years in UNICEF and many other development organisations in Asia and Africa, has been incorporated into Revision 1–2004.

Since the issue of the BIS Standards **IS 9301 : 1990**, **IS 13056 : 1991** and **IS 13287 : 1992**, the India Mark Handpumps have become the handpump of choice in many countries in Asia and Africa.

This Specification is intended to assist all users of India Mark II & III Pumps, but is primarily aimed at purchasers, manufacturers & inspectors of these pumps.

Suggestions for improvements and requests for further information are welcome, and should be sent to Skat Consulting at the address given below.

Former editions: by the Bureau of Indian Standards (BIS)

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India Mark Handpump Specifications

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Engineering Drawings India Mark II Handpump (Standard handpump)
 India Mark III Handpump (with open top cylinder)
 India Mark II Extra Deep-well Handpump

Appendix 1 Parts List For each handpump type, a complete Parts List is attached.

Appendix 2 International Standards used for India Mark Handpump Specifications.

Appendix 3 R&D and Miscellaneous

India Mark Handpump Specifications

1.0 Scope

- 1.1 The **India Mark II Handpump** is suitable for lifting water from depths up to 50 m and can be installed in boreholes and dugwells.
Boreholes: For casing sizes of 4", 4.5", 5", 6", 7" or 8".
Dug wells: Note: If the pump is to be used in dug wells, possibilities for locating the rising main has to be provided.
- 1.2 The **India Mark III Handpump** is suitable for lifting water from depths up to 40 m and can be installed in boreholes and dugwells.
- 1.3 The **India Mark II Extra Deep-well Handpump** is suitable for lifting water from depths up to 80 m and is therefore mostly installed in boreholes.

2.0 Nomenclature

A brief description of the major pump components as there are:

Pump assembly, Pump head assembly, Handle assembly, Water tank assy., Pump stand assemblies, Cylinder arrangements, Pumprod arrangements and Installation tools are given below.

2.1 The Numbering System:

The numbering system of the technical drawings conforms to the RWSN International Handpump Specification, which includes the majority of "Public Domain Handpumps".

- 2.1.1 Every component has its own unique 4-digit number,
- 2.1.2 Standard parts are found between 1001 to 2000,
- 2.1.3 Components and assembling drawings 2001 to 9000,
- 2.1.4 Any other drawings, diagrams, plans, layouts etc. 9001 to 10'000,

2.2 The capital letter:

- 2.2.1 A capital letter is in front of every 4-digit number,
- 2.2.2 Assembly drawings and subassemblies which are detachable, are marked with the letter "A",
- 2.2.3 Subassembly drawings, like welding assemblies, which are non-detachable, are marked with the letter "B",
- 2.2.4 All detail drawings are marked with the letter "C",
- 2.2.5 Sketches layouts or drafts will be marked with the letter "D",

2.3 How to find the complete drawing set for each Handpump Type:

- 2.3.1 The **India Mark II** is the "Standard version" of the 3 handpump types described in these specifications and therefore the drawings of all pump components are found in the **First part of the "Engineering Drawings"**.
- 2.3.2 The **India Mark III** is using India Mark II Pump features for the above ground components, but the down hole components are different. The drawings for all pump components that differ from the India Mark II Pump are found in the **Second part of the "Engineering Drawings"**.
- 2.3.3 The **India Mark II Extra Deep-well** is using most of the India Mark II Pump features, but a number of components needed to be reinforced. The drawings for all pump components that differ from the India Mark II Pump are found in the **Third part of the "Engineering Drawings"**.
- 2.3.4 All drawings are specially marked with a Letter A, B, C or M in a circle that is located at the top right of each drawing head.

- (A) FOR INDIA MARK II PUMP COMPONENTS
- (B) FOR INDIA MARK III PUMP COMPONENTS
- (C) FOR INDIA MARK II EXTRA DEEPWELL PUMP COMPONENTS
- (M) FOR MULTI-USE COMPONENTS (USED FOR VARIOUS PUMP TYPES)

See examples:

Pos.	Qty.	Description	Drawing No.	Remarks
3	2	Handle	C24.13	---
2	2	Limiter	C24.17	---
1	1	Flange	C24.16	---
<p>WELDED TO ISO 9692 ELECTROPLATED TO ISO 2081/82 GENERAL TOLERANCE +/- 1 UNLESS OTHERWISE STATED</p> <p style="text-align: right;">Multi-Use Components (M)</p>				
Rural Water Supply Network		Sub assembly		Scale: 1:2
RWSN		Resting tool assembly		Drawn by: K. Erst 26.03.97 Checked by: [Signature] 02.03.97 Released by: [Signature] 01.03.97
International Handpump Specification				B2415
used for India Mark III Pump only (B)				
ALL SHARP CORNERS TO BE ROUNDED OFF GENERAL TOLERANCES +/- 1 UNLESS OTHERWISE STATED				
Rural Water Supply Network		Detail drawing		Scale: 1:1
RWSN		Upper cap		Drawn by: K. Erst 12.03.97 Checked by: [Signature] 05.07.97 Released by: [Signature] 09.07.97
International Handpump Specification				C2654
used for all India Mark Pump Types (A, B, C)				
ALL SHARP CORNERS TO BE ROUNDED OFF GENERAL TOLERANCE +/- 1 UNLESS OTHERWISE STATED				
Rural Water Supply Network		Detail drawing		Scale: 1:2
RWSN		Flange		Drawn by: I. Inder 15.03.97 Checked by: [Signature] 05.07.07 Released by: [Signature] 04.07.07
International Handpump Specification				C2344

3.0 Drawing Summary

3.1 Pump Features for the India Mark II Handpump

3.1.1 India Mark II pump assemblies see Fig. D9096 / D9191

3.1.2 Top part arrangement see Fig. A2339

3.2 Pump head

3.2.1 Head arrangement see Fig. A2303

3.2.2 Head assembly see Fig. B2304

3.2.3 Detail drawings of Head parts see Fig. C2306 / C2312 / C2313 / C2314 / C2316
C2317 / C2318 / C2319 / C1016 / C1017 / C1030

3.2.4 Bracket assembly see Fig. B2307

3.2.5 Detail drawings of Bracket parts see Fig. C2308 / C2309 / C2310

3.2.6 Front cover assembly see Fig. B2320

3.2.7 Detail drawing of Front cover part see Fig. C2321

3.3 Handle

3.3.1 Handle arrangement see Fig. A2325

3.3.2 Handle assembly see Fig. B2326

3.3.3 Detail drawings of Handle parts see Fig. C2327 / C2328 / C2329 / C2332
C2333 / C2334 / C1016 / C1033 / C1034 / C1035

3.3.4 Roller chain assembly see Fig. B2346

3.3.5 Detail drawings of Roller chain parts see Fig. C2330 / C1032

3.4 Third plate

3.4.1 Third plate assembly see Fig. B2335

3.4.2 Detail drawings of Third plate parts see Fig. C2336 / C2337

3.5 Water tank

3.5.1 Water tank assembly see Fig. B2340

3.5.2 Detail drawings of Water tank parts see Fig. C2269 / C2341 / C2342 / C2343
C2344 / C2345 / C1016 / C1017

3.5.3 Spout assembly see Fig. B2367

3.5.4 Detail drawings of Spout parts see Fig. C2368 / C2369

3.6 Pump stand (3-legs)

3.6.1 Stand assembly see Fig. B2348

3.6.2 Detail drawings of Stand parts see Fig. C2052 / C2053 / C2054 / C2292

3.7 Pump stand (with Bottom flange)

3.7.1 Stand assembly see Fig. B2221

3.7.2 Detail drawings of Stand parts see Fig. C2052 / C2053 / C2056 / C2058
C2059 / C2068 / C1069 / C1130

3.7.3	Anchor assembly	see Fig. B2083
3.7.4	Detail drawings of Anchor parts	see Fig. C2084 / C1114
3.8	Cylinder	
3.8.1	Cylinder assembly	see Fig. A2350
3.8.2	Detail drawings of Cylinder parts	see Fig. C2351 / C2352 / C2353 / C2354
3.9	Rising main	
3.9.1	Detail drawings of Rising main parts	see Fig. C2365 / C2366
3.10	Plunger and Check valve	
3.10.1	Plunger assembly	see Fig. A2349
3.10.2	Detail drawings of Plunger parts	see Fig. C2355 / C2356 / C2357 C2358 / C2359 / C2360
3.10.3	Check valve assembly	see Fig. A2423
3.10.4	Detail drawings of Check valve parts ...	see Fig. C2361 / C2362 / C2363 / C2364
3.11	Pumprod	
3.11.1	Pumprod arrangement (Mild Steel version)	see Fig. A2370
3.11.2	Pumprod assembly (Mild Steel)	see Fig. B2373
3.11.3	Detail drawings of Pumprod parts	see Fig. C2372 / C1012 / C1015
3.11.4	Plunger rod assembly (Stainless Steel)	see Fig. B2555
3.11.5	Detail drawings of Plunger rod parts	see Fig. C2556 / C1053
3.12	Options	
	Handle	
3.12.1	Bearing housing	see Fig. C2331
	Pump stand	
3.12.2	Stand assembly (3 legs)	see Fig. B2347
3.12.3	Detail drawings of Pump stand parts	see Fig. C2052 / C2053 / C2054 C2295 / C2378 / C2379
	Plunger	
3.12.4	Plunger assembly for Leather cup seals	see Fig. A2407
3.12.5	Detail drawings of Plunger parts	see Fig. C2408 / C2409
	Pumprod	
3.12.6	Pumprod arrangement (Stainless Steel version)	see Fig. A2380
3.12.7	Pumprod assembly	see Fig. B2383
3.12.8	Detail drawings of Pumprod parts	see Fig. C2382 / C1053 / C1055
3.13	Installation tools	
3.13.1	Connecting tool assembly	see Fig. B2420
3.13.2	Detail drawings of Connecting tool parts	see Fig. C2421 / C2422 / C1015
3.13.3	Pipe clamp assembly	see Fig. A2470
3.13.4	Detail drawings of Pipe clamp parts	see Fig. C2471 / C1016 / C1017

- 3.13.5 Bearing mounting assembly see Fig. A2478
- 3.13.6 Detail drawings of Mounting parts see Fig. C2479 / C2480 / C1016 / C1036
- 3.13.7 Pipe vice assembly see Fig. A2515
- 3.13.8 Detail drawings of vice parts see Fig. B2516 / C2517 / C2518 / C2519 / C2520
C2523 / C2524 / B2557 / C2558 / C2559 / C2560 / C1150 / C1151
- 3.13.9 Pumprod vice assembly see Fig. A2443
- 3.13.10 Detail drawings of Pumprod vice parts see Fig. B2444 / C2413 / C2545 / C2446
C2447 / B2448 / C2449 / C2559 / C2560
- 3.13.11 Lifting spanner assembly (1 ¼") see Fig. B2545
- 3.13.12 Detail drawings of Spanner parts see Fig. C2546 / C2547 / C2538
- 3.13.13 Other tools ... see Fig. C2476 / C2477 / C1005 / C1081 / C1137 / C1153 / C1153

3.14 Pump Features for the India Mark III Handpump

(different components to the ones used for the India Mark II Handpump)

3.14.1 Pump assemblies see Fig. D9099 / D9192

Above Ground Components:

3.14.2 Water tank assembly see Fig. B2621

3.14.3 Detail drawings of Water tank parts see Fig. C2269 / C2343 / C2344 / C2345
C2622 / C2623 / C1016 / C1017

3.14.4 Spout assembly see Fig. B2367

3.14.5 Detail drawings of Spout parts see Fig. C2368 / C2369

Below Ground Components:

3.14.6 Cylinder assembly see Fig. A2651

3.14.7 Detail drawings of Cylinder parts see Fig. C2354 / C2652 / C2653
C2654 / C2655

3.14.8 Detail drawings of Rising main parts see Fig. C2665 / C2666

3.14.9 Plunger assembly see Fig. A2657

3.14.10 Detail drawings of Plunger parts see Fig. C2355 / C2357 / C2358
C2359 / C2360 / C2658

3.14.11 Check valve assembly see Fig. A2659

3.14.12 Detail drawings of Check valve parts see Fig. C2660 / C2661 / C2662
C2663 / C2664 / C1014 / C1121

Options:

3.14.13 Cylinder assembly see Fig. A2386

3.14.14 Detail drawings of Cylinder parts see Fig. C2352 / C2353 / C2354 / C2387 / C2654

3.14.15 Plunger assembly see Fig. A2388

3.14.16 Detail drawings of Plunger parts see Fig. C2088 / C2389 / C2757

3.14.17 Footvalve assembly see Fig. A2298

3.14.18 Detail drawings of Footvalve parts see Fig. C2088 / C2759 (or C2761)
C1011 / C1120 / C1121

Installation Tools:

3.14.19 Pipe clamp assembly see Fig. A2472

3.14.20 Detail drawings of Pipe clamp parts see Fig. C2473 / C1016 / C1049

3.14.21 Detail drawings of vice parts see Fig. C2521 / C2522

3.14.22 Lifting spanner assembly (2 ½") see Fig. B2535

3.14.23 Detail drawings of Spanner parts see Fig. C2536 / C2537 / C2538

3.15 Pump Features for India Mark II Extra Deep-well Handpump

(different components to the ones used for the India Mark II Handpump)

3.15.1 Pump assembly see Fig. D9166

Above Ground Components:

3.15.2 Head arrangement see Fig. A2503

3.15.3 Head assembly see Fig. B2504

3.15.4 Detail drawings of Head parts see Fig. C2313 / C2314 / C2316 / C2317 / C2318
C2319 / C2506 / C2512 / C1016

3.15.5 Bracket assembly see Fig. B2507

3.15.6 Detail drawings of Bracket parts see Fig. C2508 / C2509 / C2510

3.15.7 Handle arrangement see Fig. A2525

3.15.8 Handle assembly see Fig. B2526

3.15.9 Detail drawings of Handle parts see Fig. C2328 / C2332 / C2333 / C2334 / C2527
C2529 / C1016 / C1033 / C1034 / C1035

3.15.10 T-Handle assembly see Fig. B2530

3.15.11 Detail drawings of T-Handle parts see Fig. C2531 / C2532 / C2533
C2534 / C1016 / C1036

Below Ground Components:

3.15.12 Cylinder assembly see Fig. A2540

3.15.13 Plunger assembly see Fig. A2541

3.15.14 Detail drawings of Plunger parts see Fig. C2355 / C2357 / C2358 / C2359
C2360 / C2542 / C2543

Options:

3.15.15 Plunger assembly for Leather cup seals see Fig. A2414

3.15.16 Detail drawings of Plunger parts see Fig. C2355 / C2358 / C2360
C2408 / C2409 / C2542

4.0 General Requirements

- 4.1 The material, tolerances, etc, shall be as given in the respective detail drawings and parts list.
- 4.2 The bolts and nuts used for the India Mark Handpumps shall conform to relevant parts of ISO 4014/4017 for bolts and ISO 4032 for nuts.
- 4.3 The washers shall conform to designation of ISO 7089.
- 4.4 The Ball bearings shall conform to designation of ISO 15.
- 4.5 The steel plates, sheets, angle iron, square and round bars for the construction of the India Mark Handpump components shall conform to designation of ISO 630, "Structural steels".

Grade E185 Chemical properties of test pieces:
C=0.22%max; P=0.050%max; S=0.050%max,
Tensile strength: 300-540 N/mm²

Grade E235 Chemical properties of test pieces:
C=0.22%max; P=0.055%max; S=0.055%max; Mn=1.5%max,
Tensile strength: 340-470 N/mm²

Grade E355 Chemical properties of test pieces:
C=0.20%max; P=0.040%max; S=0.040%max, Mn=1.6%max,
Tensile strength: 490-640 N/mm²

Comparable Steel Grades

International	Europe		Germany	U.K.	Japan	USA
ISO 630	EN 10025 (93)	EN 10025 (90)	DIN 17100	BS 4360	JIS 3101	ASTM
E 185 (Fe 310)	S 185	Fe 310-0	St 33	---	SS330	A283
E 235 (Fe 360 B)	S 235 JR	Fe E 360-B	RSt 37-2	40B	SS400	A284 gr
E 355 (Fe 510 C)	S 355 JO	Fe 510-C	St 52-3 U	50C	SS490B	A633 gr

- 4.6 The Steel Pipes for the construction of handpump components shall conform to designation of ISO 559, "Steel tubes for water and sewage" (ISO 9330-1).
(Material is used for Rising main, Sockets, Tank pipe, Spout, Stand pipes etc.)

Grade ST 320 Chemical properties of test pieces:
(TW 320) C=0.16%max; P=0.040%max; S=0.040%max; Mn=0.7%max,
Tensile strength: 320-460 N/mm²

Dimensions shall conform to ISO 65, "Carbon steel tubes suitable for screwing".

- 4.7 The Riser pipe holder, welded to the Water tank shall be machined from seamless tube or of a solid bar conforming to Grade E 235 of ISO 630.

- 4.8 Rubber components like Bobbin, Seals, Cup seals, Rubber seatings and O-Rings shall be made of (Acrylo-) Nitrile-Butadien Rubber (NBR) conforming to BS 2751. The quality acceptance criteria for O-Rings is found in ISO 3601-1 & 3601-3. Dimensions conforming to ISO 3302-1, "Rubber – Tolerances for products".
- 4.9 Rubber components of minor importance, like Gasket C2059 can be made of Nitrile- or natural Rubber, conforming to the specifications given in the drawings. (Tolerance for Shore hardness should not exceed +/-5°.)
- 4.10 The Brass liner for the cylinder shall be made of seamless tubing of CuZn37 conforming to ISO 426-1. For increased resistance to the de-zincification in corrosive waters (with high chloride content for example), CuZn20Al2 or CuZn28Sn1 may be specified.
- 4.10.1 Brass components like Plunger and Footvalve components shall be made of CuZn38Pb4 conforming to ISO 426-2.
- 4.11 The Stainless Steel components shall be made of X5CrNi 18-9 as specified.
Chemical properties of X5CrNi 18-9 in accordance to ISO 15510:
C=0.07%max; Si=1.0%max; Mn=2.0%max; P=0.045%max; S=0.015%max;
N=0.11%max; Cr=17.0-19.5%; Ni=8.0-10.5%.
Tensile strength: 500 to 700 N/mm²
- In situations where corrosion conditions are particularly severe, pump components might be made of X5CrNiMo 17-12-2.
Chemical properties of X5CrNiMo 17-12-2 in accordance to ISO 15510:
C=0.07%max; Si=1.0%max; Mn=2.0%max; P=0.045%max; S=0.015%max;
N=0.11%max; Cr=16.0-18.0%; Mo=2.0-3.0%; Ni=10.0-13.0%.
Tensile strength: 510 to 710 N/mm²
- 4.12 All components made of "Tool Steel" can be made of material that can be hardened to about 50 HRC (after annealing).
For hardened components, no additional corrosion protection is required.

5.0 Anti-Corrosion Treatment

The India Mark Handpumps shall be given the anti-corrosion treatment as specified below:

5.1 Hot Dip Galvanizing:

The following pump assemblies shall be galvanized according to ISO 1461, "Protection against corrosion: hot dip galvanized coatings on fabricated ferrous products: requirements and tests":

The coating thickness should be between 70 to 80 μm in average.

Head assembly	Mark II and III	see Fig. B2304
Head assembly	Extra Deep well	see Fig. B2504
Front cover assembly	all pump types	see Fig. B2320
Handle assembly	Mark II and III	see Fig. B2326
Handle assembly	Extra Deep well	see Fig. B2526
T-Handle assembly	Extra Deep well	see Fig. B2530
Balance plate	Extra Deep well	see Fig. C2534
Third plate assembly	all pump types	see Fig. B2335
Water tank assembly	Mark II & Extra Deep-well	see Fig. B2340
Water tank assembly	Mark III	see Fig. B2621
Stand assy. (3 legs)	all pump types	see Fig. B2348
Stand assy. (3 legs)	all pump types	see Fig. B2347
Stand assy. (Bottom fl)	all pump types	see Fig. B2055
Stand assy. (Bottom fl)	all pump types	see Fig. B2221
Pumprod assembly	all pump types	see Fig. B2373
Lifting spanner (1 ¼")	Mark II & Extra Deep-well	see Fig. B2545
Lifting spanner (2 ½")	Mark III	see Fig. B2535

Hot dip galvanized pumprods can be used in waters with a pH value greater than 6.5. (Note: there are other parameters that can also influence corrosion). In all other cases, Stainless Steel rods should be used.

5.2 Electroplating and Passivating:

The Chain coupling C2330, Spacer C2332, Axle washer C2334, Connecting tool assembly B2420, Pipe clamp assembly A2470, Pipe clamp assembly A2472, Bearing mounting assembly, Lifting adapter assembly, Chain supporter C2476, Axle punch C2477, Vice plate assembly B2516, Handle assemblies B2557 and B2448, Vice flange assembly B2444 and all bolts and nuts of Free cutting Steel shall be electroplated and passivated to ISO 2081/2082, Fe/Zn12C ("Electroplated coatings: coatings of zinc and cadmium coatings on iron and steel"). The coating thickness should be between 15 to 18 μm in average.

5.3 Chromate Conversion Coating:

The electroplated parts shall be given a chromate conversion coating, Type C to ISO 4520, "Protection against corrosion: chromating on electroplated zinc and cadmium coatings".

5.4 Painting:

The exterior surface of all cast iron components shall be given the following treatment:

- a) Surface to be treated needs thoroughly cleaning from rust and all grease.
- b) One coat of Quality Red Oxide Primer to be applied (corrosion protection).
- c) Thereafter, two layers of Quality Gloss Enamel Paint are required.

6.0 Testing

6.1 Sampling:

Unless otherwise specified in the contract or order, the procedure given in ISO 2859-1, "Sampling plans indexed by acceptable quality level (AQL) for lot-by-lot inspection", shall be followed for sampling inspection.

For the characteristics given under 6.3, the single sampling plan with "General Inspection level I" in Table I, and "Acceptable Quality Level" of one percent in Table II A, of ISO 2859-1, shall be used.

6.2 Visual and Dimensional Tests:

The following characteristics have to be checked:

- 6.2.1 One hundred percent interchangeability of sub-assemblies and components is an essential requirement.
- 6.2.2 All pumps shall be examined for welding, workmanship, finish, visual defects and surface coating.
- 6.2.3 All dimensions of the assemblies and sub-assemblies shall be checked for conformity with the drawings.
- 6.2.4 The stroke length shall be 125 +/-5 mm
- 6.2.5 In order to check the correct position of Pump head and Handle with respect to the centre line of the Rising main pipe, the pre-assembled Pump head needs to be placed on a levelled Pump stand. After a Ø12 mm rod with a length of 100 mm has been fitted to the Chain coupling, the Handle can be raised and lowered gently. The rod shall pass freely through the guide bush of the Third plate assembly.
- 6.2.6 The Handle shall be checked for lateral play at the end of the Handle, which shall not exceed 2 mm on either side. The clearance between the Handle and the Bracket of the Pump head shall not be less than 1.5 mm on either side.
- 6.2.7 The verticality of the Riser pipe holder compared to the Flanges has to be checked with a mandrel. The mandrel shall have a connection thread at the end of on side and should be approximately 300 mm long. Once the mandrel is fixed in the thread of the Riser pipe holder, the verticality can be checked with the help of a try square. For the entire length of the mandrel, a maximum of 1 mm tilt may be allowed.
- 6.2.8 Top rod, Pumprod and Plunger rod shall be examined for fitment of threads.

6.2.9 The Cylinder assembly shall only be checked for leakage of water under atmospheric pressure. The Cylinder should be filled with water and the water level be checked after 5 minutes – there shall be no leakage of water.

6.2.10 The Check valve and Upper valve shall move freely after assembling.

6.3 Routine Test:

Unless otherwise specified in the contract or order, a minimum of two complete pumps from the selected samples shall be subjected to the following tests, in addition to the tests in 6.2 above:

6.3.1 The pumps and cylinders selected shall be dismantled and the components checked in detail for dimensional conformity to the drawings, general requirements and additional requirements.

However the "Dimension Conformity" should be checked for critical dimensions only, which effect the performance of the pump. Any slight variation in dimensions, which are not critical should not be treated as non-acceptance.

6.3.2 Discharge Test: The Cylinder assembly shall be placed in a barrel of 200 litres water capacity. The cylinder shall be primed and testing shall start after a continuous flow of water through the spout has been obtained. The water shall then be collected in a container for 40 continuous full strokes of the plunger. This test shall be completed in one minute and the discharge thus measured shall not be less than 15 litres.

6.4 Criteria for Conformity:

The lot shall be considered conforming to the requirements of this specification, if the pumps selected according to 6.1 and 6.3 satisfy the following requirements:

- a) The number of pumps not meeting the requirements of a characteristic inspected under 6.2 does not exceed the corresponding acceptance number,
- b) The pumps inspected according to 6.3 meet the requirements given in 6.3.1 & 6.3.2.

Other important Notes:

For protection purposes of threads, the following measures should be taken:

- a) The hot dip galvanized Riser pipes should be fitted on one side with a hot dip galvanized socket and the thread on the other side should be protected by a threaded protector of HDPE or equivalent.
- b) Each Pumprod shall be fitted with a thread protector cap of HDPE or equivalent.
- c) Polytetrafluorethylene (PTFE) tape should be applied to the threads when Rising main pipe is installed, to avoid leakage of the pipe connections.
- d) For the Chain assembly, Graphit or Multi Grease should be applied.
- e) For balancing of the Handle for the Extra Deepwell Handpump, the following weights (Balance plate C2534) shall be added to the T-handle assembly:

Up to 60 m	no weight required
Between 60 to 70 m	1 Balance plate
Between 70 to 80 m	2 Balance plate
Above 80 m	3 Balance plate

- f) For locking the Top rod to the Chain coupling, an additional hexagonal nut M12 is required (C1016).

6.5 National Standards:

Wherever equivalent National Standards are available the materials and processes shall conform to such National Standards.

- 6.5.1 Further information on the ISO Standards or any other Standards used in these RWSN Specifications are available from SKAT - RWSN.

7.0 Guarantee

Unless otherwise specified in the contract or order, the India Mark Handpumps and its accessories shall be guaranteed for 12 months from the date of installation, or 18 months from the date of supply, whichever is earlier, against faulty workmanship and/or materials.

8.0 Marking

The nameplate shall be permanently attached to the Pump head (pop-riveting).

The nameplate shall give the following information:

- a) Manufacturer's name and address,
- b) Serial number;
- c) Year and month of manufacture.

All flanges on Pump stand, Water tanks and Pump head shall be marked permanently with the manufacturer's name, identification mark and year of production.

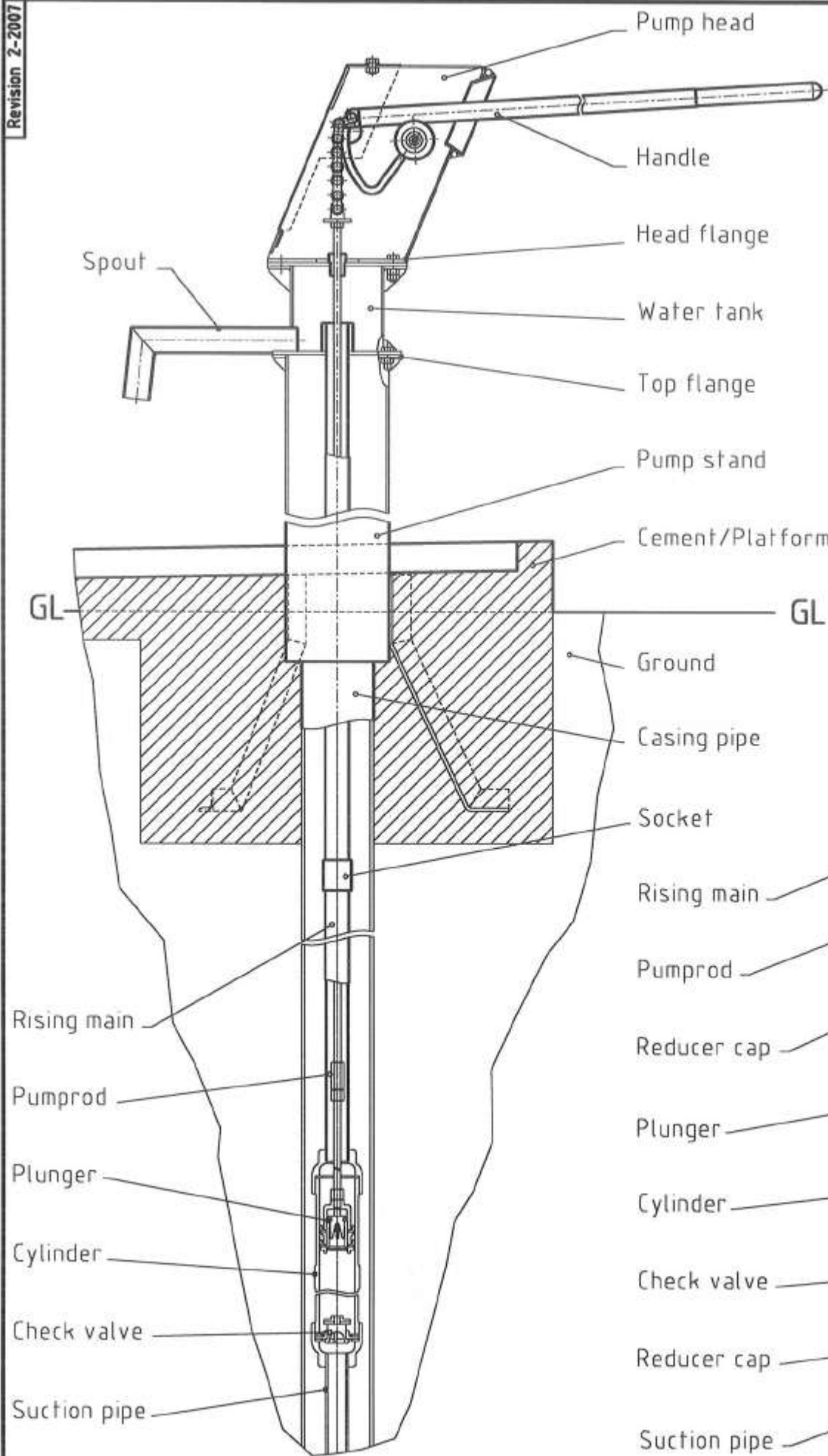
The Cylinder assembly shall have the manufacturer's name, identification mark and year of production stamped.

9.0 Supporting Documents

- a) India Mark II, Installation and Maintenance Manual, Edition 2008,
- b) India Mark III, Installation and Maintenance Manual, Edition 2008,
- c) India Mark II Extra Deep well, Installation and Maintenance Manual, Edition 2008,
- d) "Moulding Guidelines for Production of Rubber Components", Revision 1-1999,
- e) Platform Design for Handpumps on Boreholes (Construction Guide), Rev. 1-2008,
- f) Platform Design for Handpumps on Dug wells (Construction Guide), Rev. 1-2008,

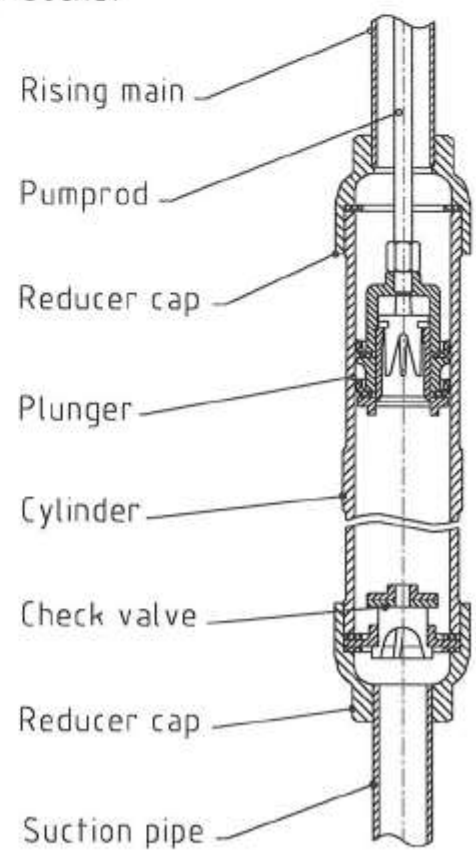
Engineering Drawings for the

India Mark II Handpump

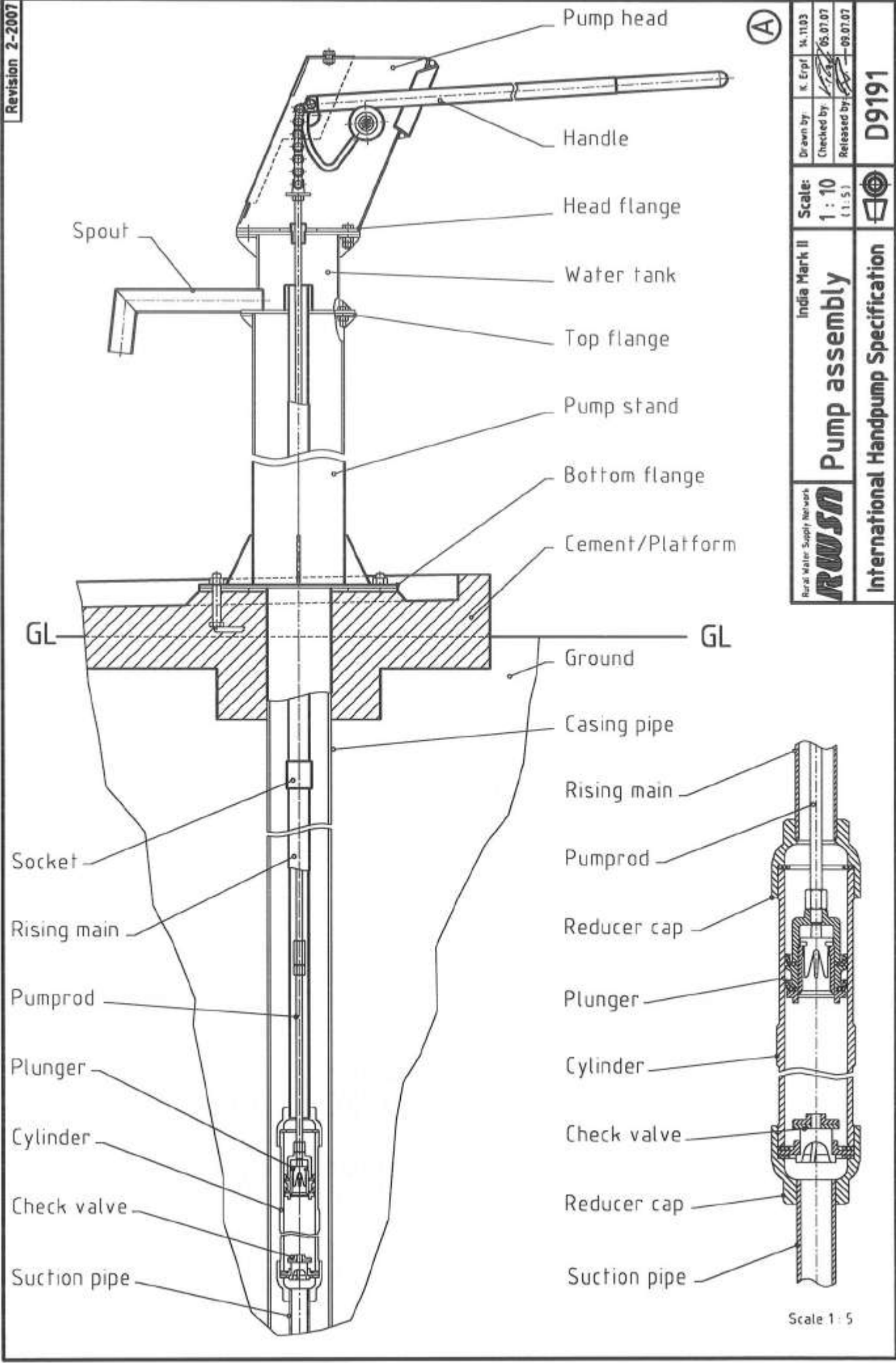


(A)

Rural Water Supply Network RWSN	India Mark II Pump assembly	Scale: 1 : 10 (1 : 5)	Drawn by: K. Erpf 13.12.00 Checked by: 05.07.07 Released by: 09.07.07	D9096
	International Handpump Specification			



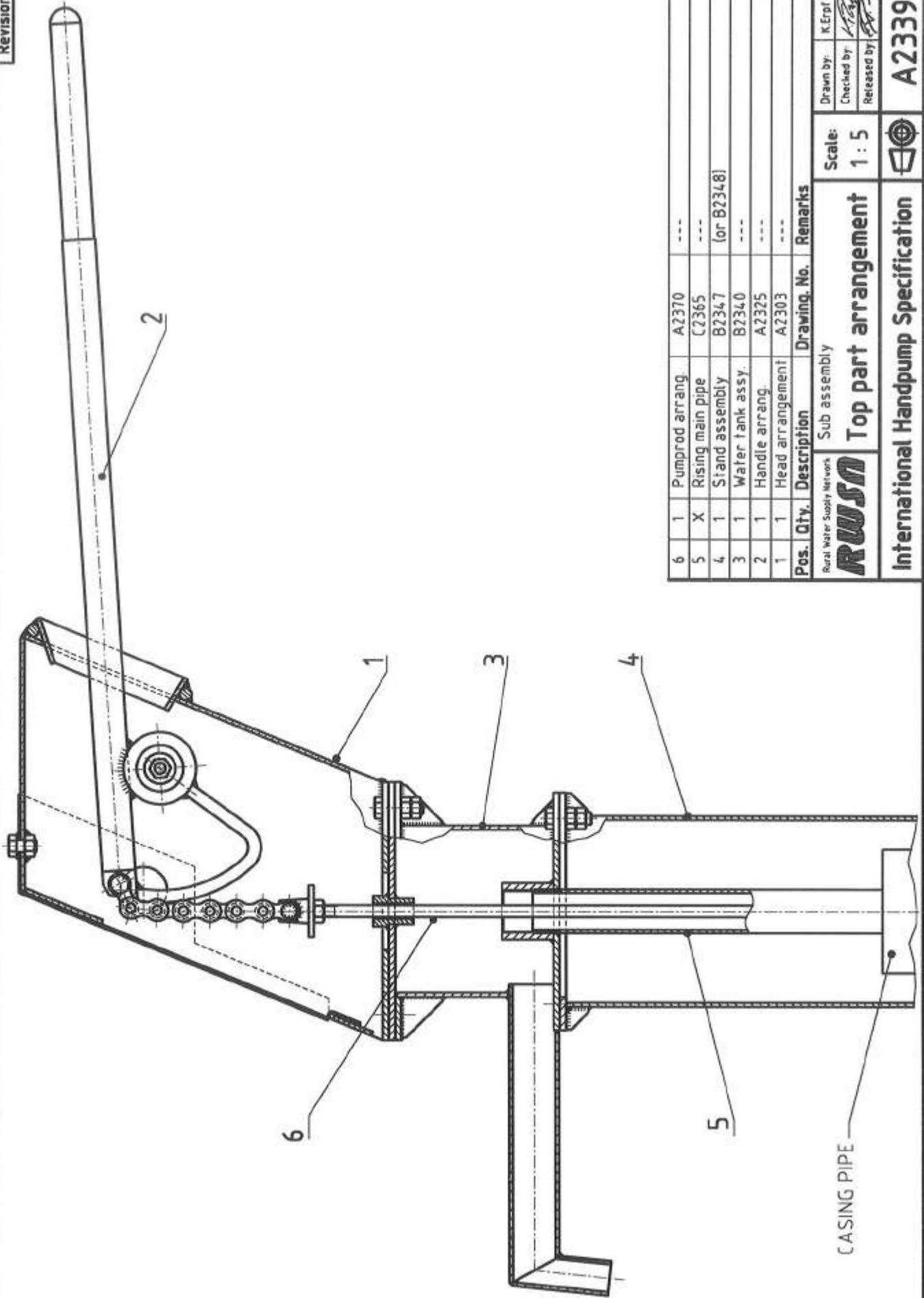
Scale 1 : 5



(A)

Drawn by: K. Erpf 14.11.03	Checked by: 05.07.07	Released by: 09.07.07
Scale: 1:10 (1:5)		
India Mark II	Pump assembly	
Rural Water Supply Network	RWSSN	
International Handpump Specification		
D9191		

Scale 1 : 5

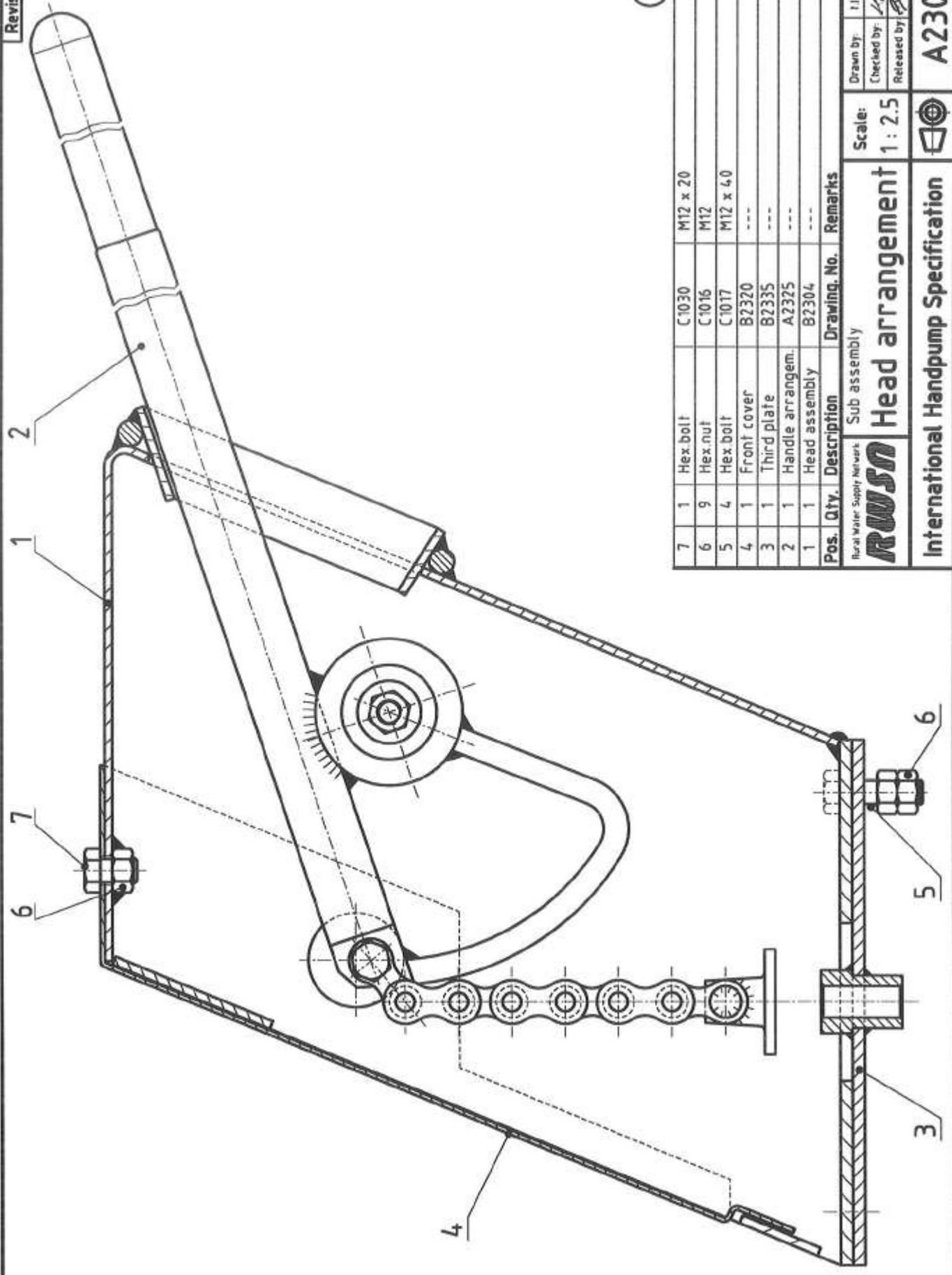


Pos.	Qty.	Description	Drawing No.	Remarks
6	1	Pumprod arrang	A2370	---
5	X	Rising main pipe	C2365	---
4	1	Stand assembly	B2347	(or B2348)
3	1	Water tank assy.	B2340	---
2	1	Handle arrang.	A2325	---
1	1	Head arrangement	A2303	---

Rural Water Supply Network		Scale: 1:5		Drawn by: K.Erpf	02.10.02
RWSN		Top part arrangement		Checked by: [Signature]	15.07.07
International Handpump Specification		[Symbol]		Released by: [Signature]	09.07.07
				A2339	

CASING PIPE

Revision 2-2007



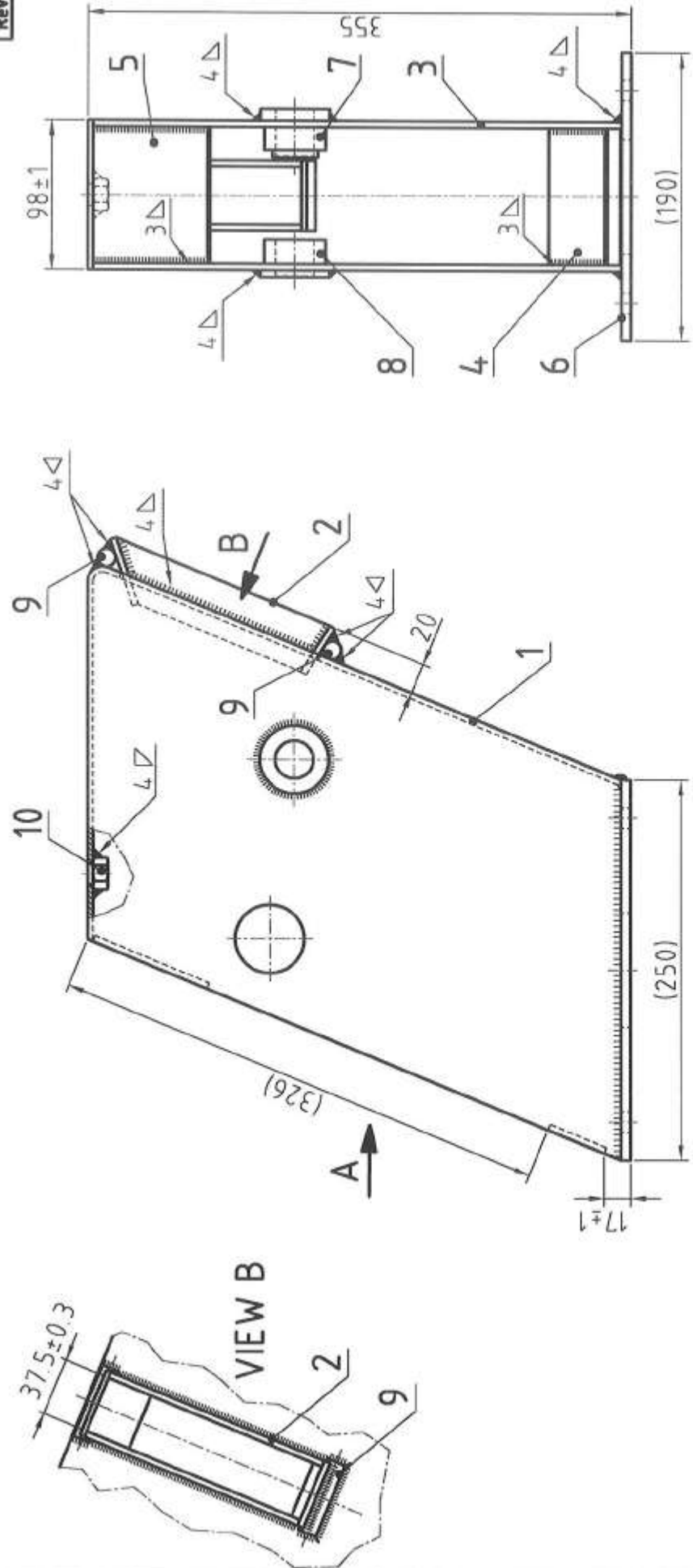
(A) (B)

Pos.	Qty.	Description	Drawing No.	Remarks
7	1	Hex.bolt	C1030	M12 x 20
6	9	Hex.nut	C1016	M12
5	4	Hex.bolt	C1017	M12 x 4.0
4	1	Front cover	B2320	---
3	1	Third plate	B2335	---
2	1	Handle arrangem.	A2325	---
1	1	Head assembly	B2304	---

Scale: 1:2.5		Drawn by: I.leder	15.03.97
Head arrangement		Checked by:	05.07.07
International Handpump Specification		Released by:	09.07.07

RWSN
 Rural Water Supply Network

A2303



VIEW A

VIEW B

THE HEAD ASSEMBLY SHALL BE WELDED FROM INSIDE AND OUTSIDE. REAMING OF LEFT AND RIGHT AXLE BUSHES SHALL BE DONE TO ENSURE INTERNAL DIMENSIONS AND ALIGNMENT (AFTER HOT DIP GALVANIZING).

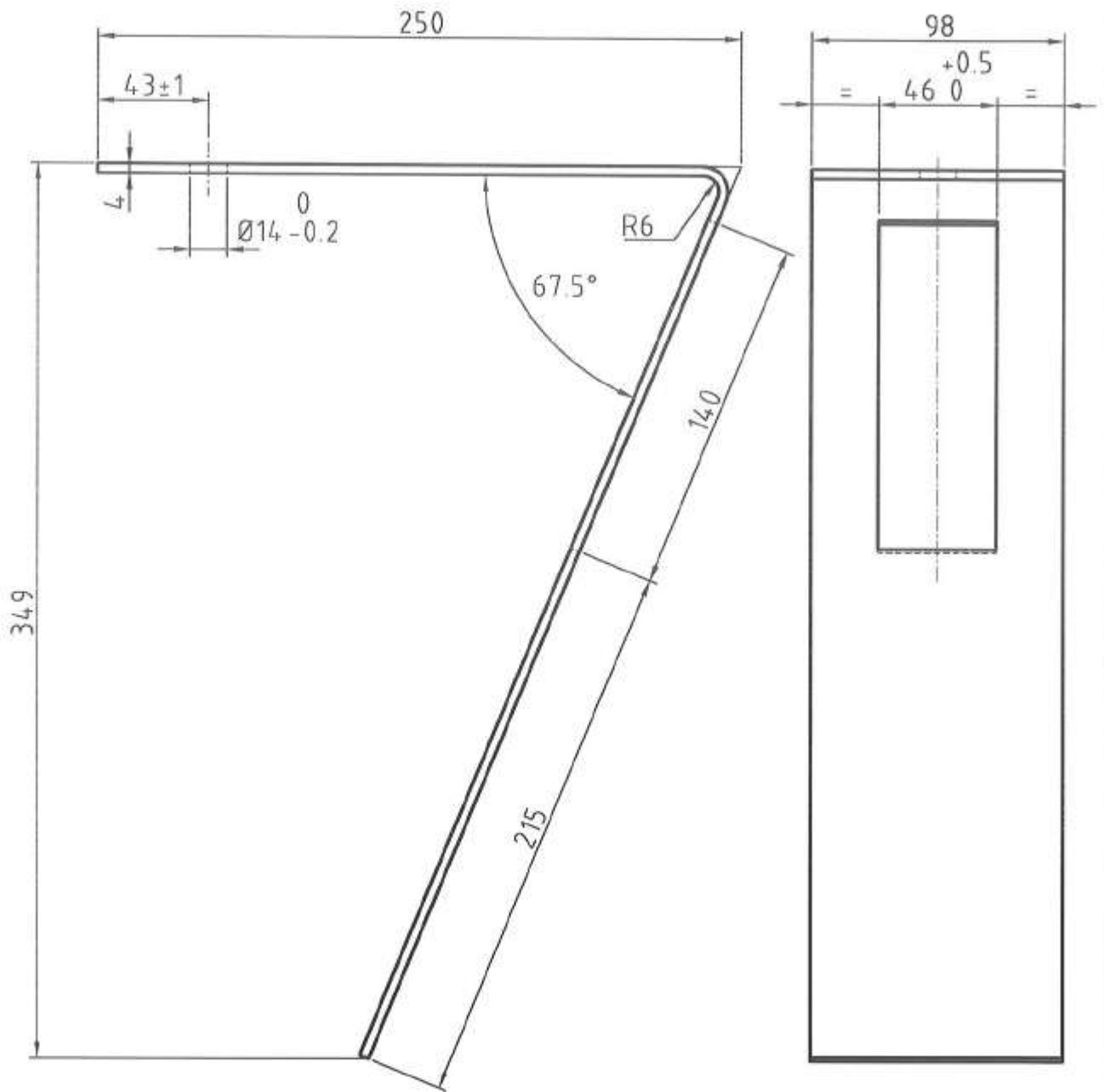
HOT DIP GALVANIZED TO ISO 1461
GENERAL TOLERANCE +/-2 UNLESS OTHERWISE STATED

(A) (B)

Pos.	Qty.	Description	Drawing No.	Remarks
5	1	Top end plate	C2318	---
4	1	Bottom end plate	C2317	---
3	2	Side plate	C2313	---
2	1	Bracket assembly	B2307	---
1	1	Back plate	C2306	---

Pos.	Qty.	Description	Drawing No.	Remarks
10	1	Hex.nut	C1016	M12
9	2	Filler rod	C2312	---
8	1	Axle bush right	C2316	---
7	1	Axle bush left	C2314	---
6	1	Flange	C2319	---

Rural Water Supply Network		Scale:	Drawn by:	K.Erpf	01.10.03
RWSN		1 : 4	Checked by:		05.07.07
Sub assembly			Released by:		09.07.07
Head assembly					
International Handpump Specification					
					B2304

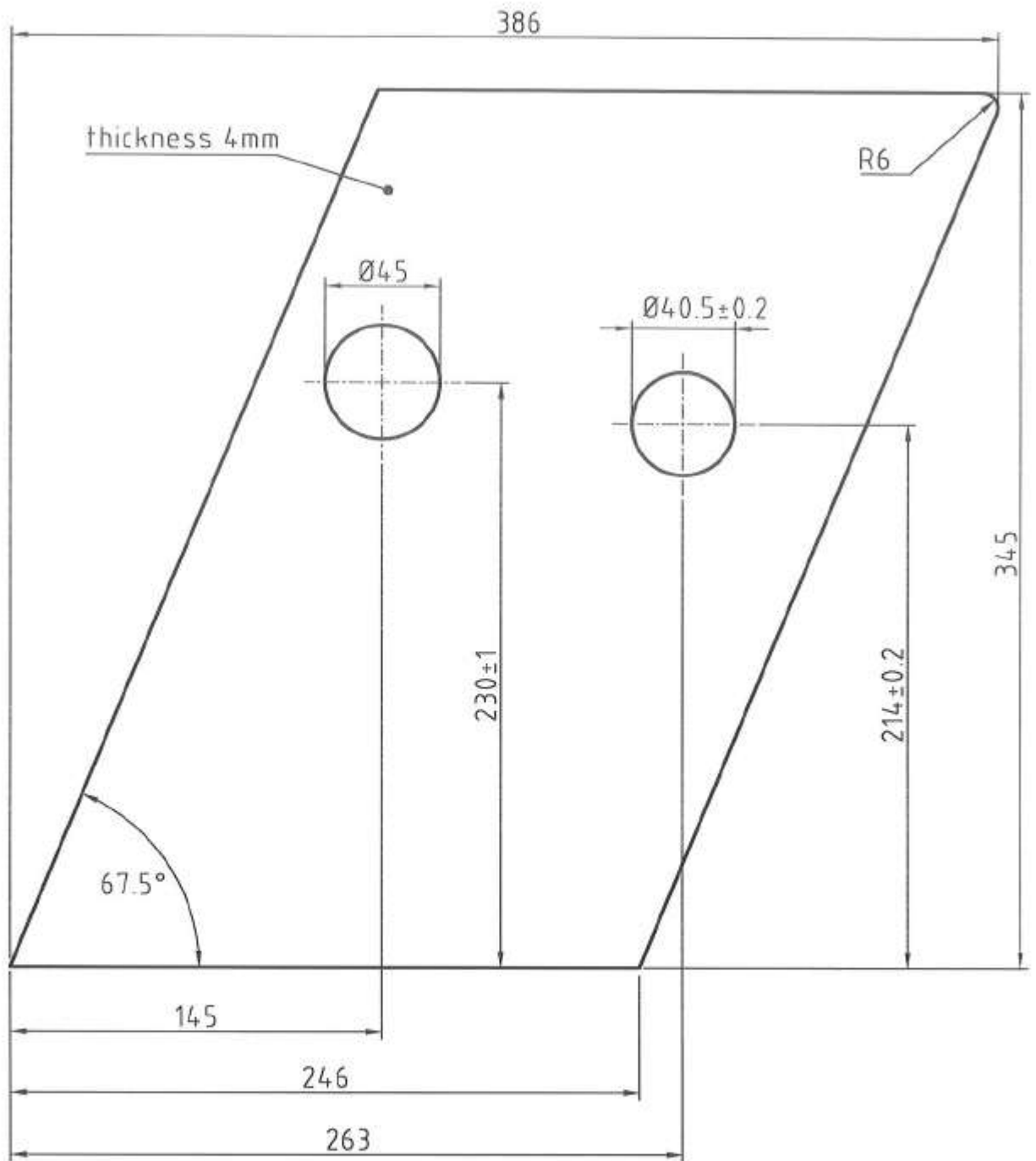


LENGTH PRIOR TO BENDING= 628±2

ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/- 0.5 UNLESS OTHERWISE STATED

(A) (B)

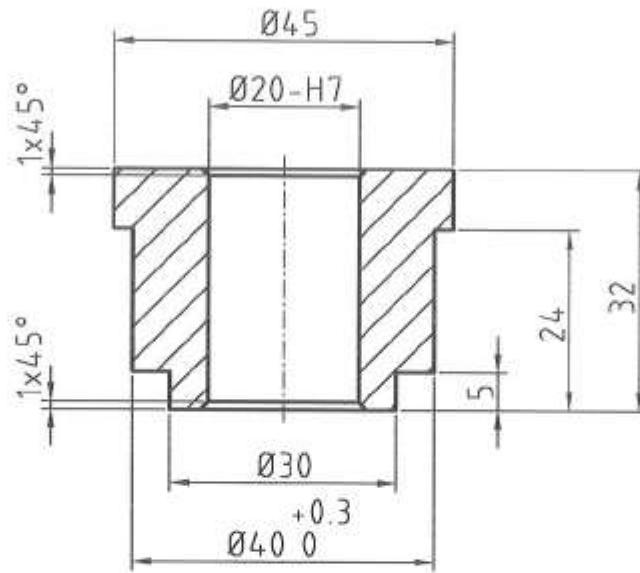
Back plate	4 x 98 x 628	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 2.5	Drawn by: t.leder. 15.03.97
	Back plate			Checked by: [Signature] 05.07.07
				Released by: [Signature] 09.07.07
International Handpump Specification				C2306



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-0.5 UNLESS OTHERWISE STATED





(A) (B) (C)

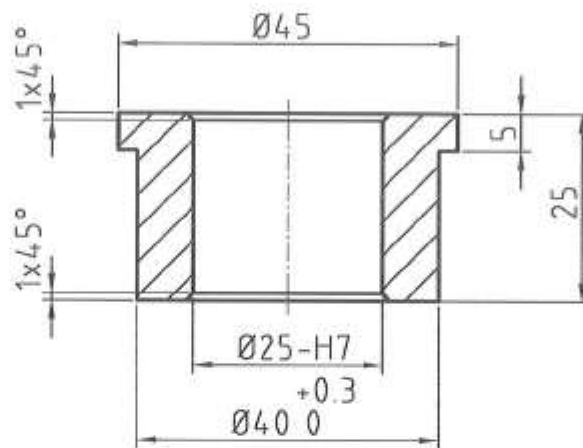
Side plate	4 x 345 x 386	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 2.5	Drawn by: f.leder. 15.03.97
	Side plate			Checked by: <i>[Signature]</i> 05.07.07
			Released by: <i>[Signature]</i> 09.07.07	
International Handpump Specification				C2313



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-0.3 UNLESS OTHERWISE STATED

(A) (B) (C)

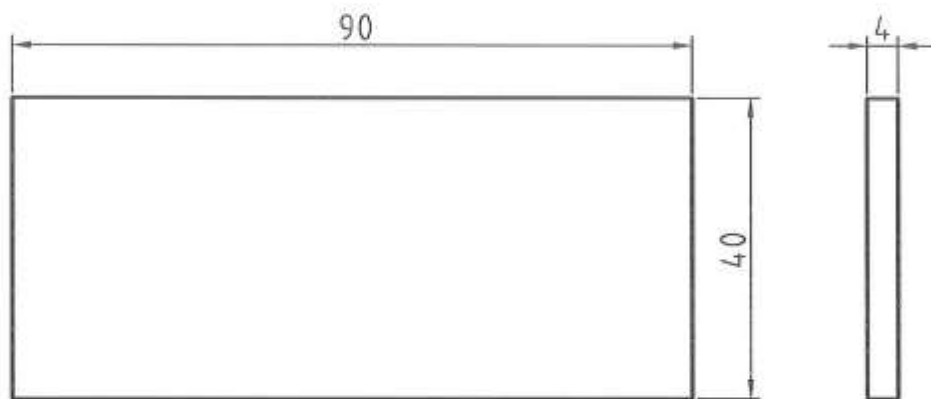
Axle bush left	Ø45 x 32	E 355	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: t.leder 15.03.97
	Axle bush left			Checked by:  05.07.07
				Released by:  09.07.07
International Handpump Specification				C2314



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-0.3 UNLESS OTHERWISE STATED


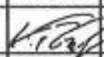
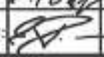

(A) (B) (C)

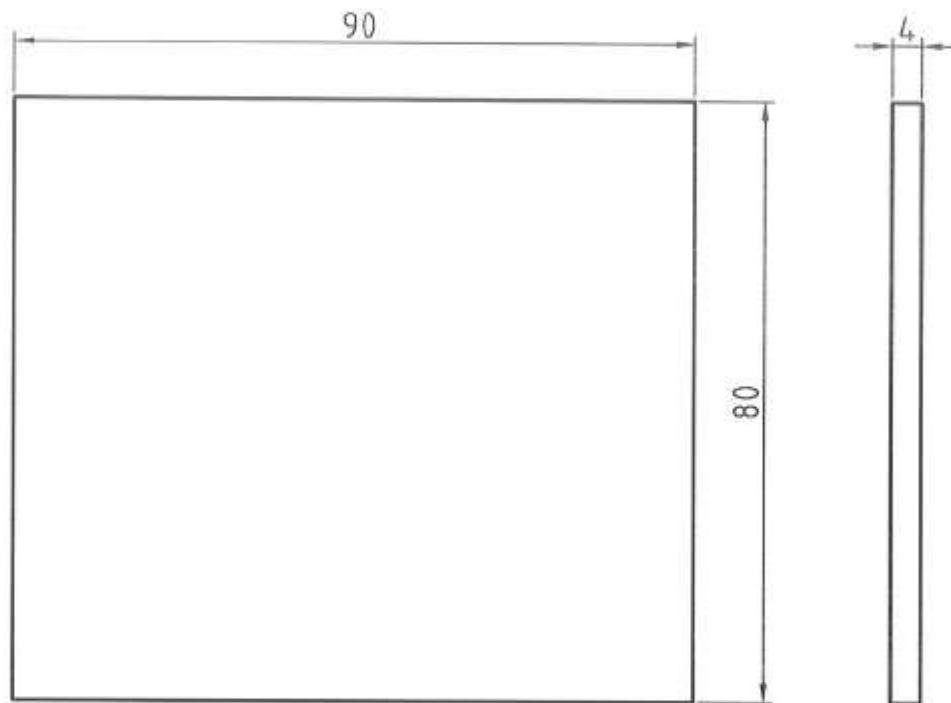
Axle bush right	Ø45 x 25	E 355	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: f.leder 15.03.97
	Axle bush right			Checked by: <i>[Signature]</i> 05.07.07
			Released by: <i>[Signature]</i> 09.07.07	
International Handpump Specification				C2316



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-0.5 UNLESS OTHERWISE STATED

(A) (B) (C)

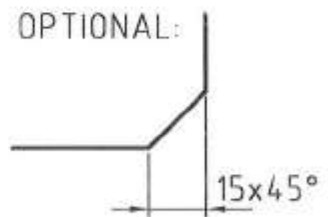
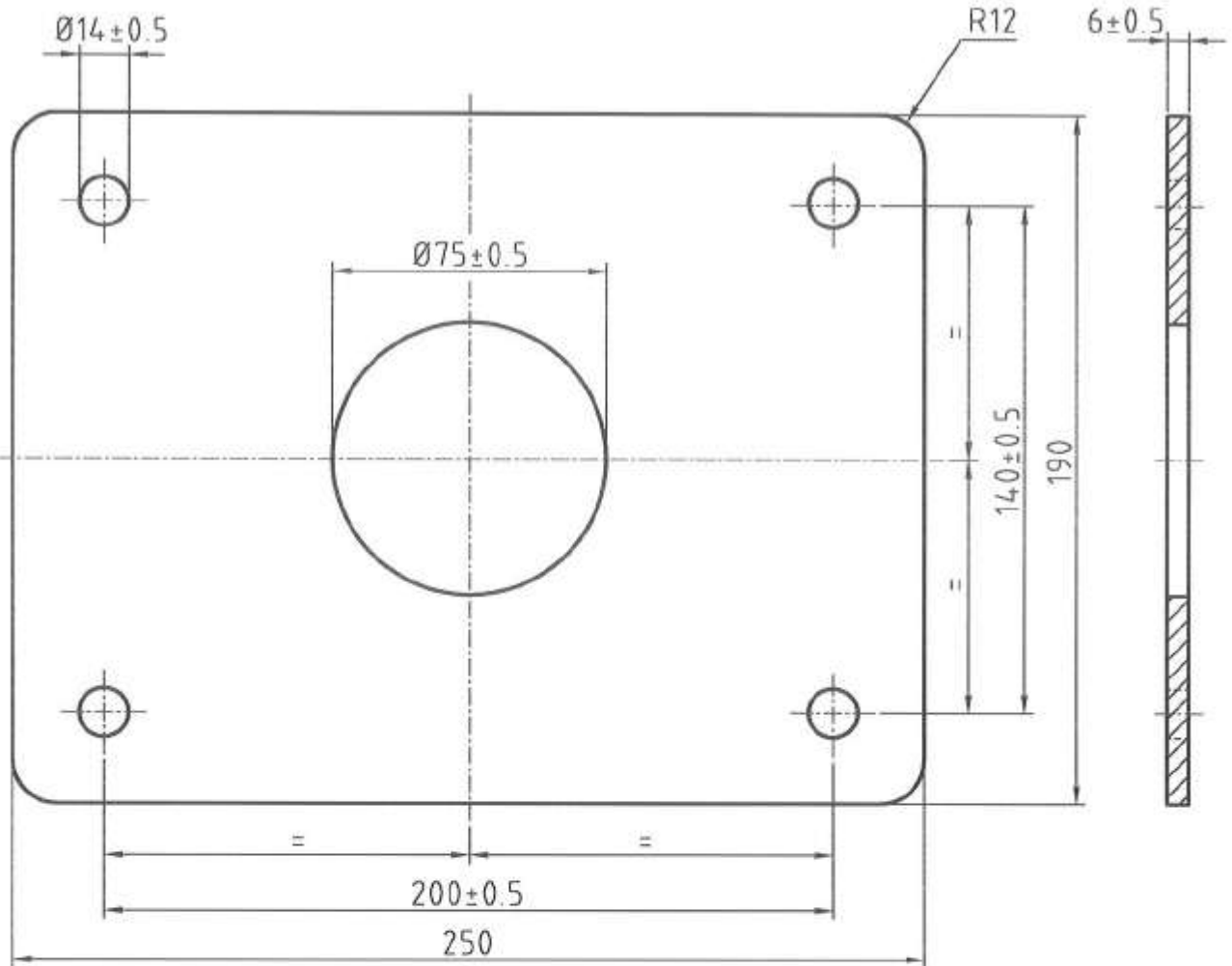
Bottom end plate	4 x 40 x 90	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: t.leder. 15.03.97
	Bottom end plate			Checked by:  05.07.07
				Released by:  09.07.07
International Handpump Specification				C2317



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-0.5 UNLESS OTHERWISE STATED

(A) (B) (C)

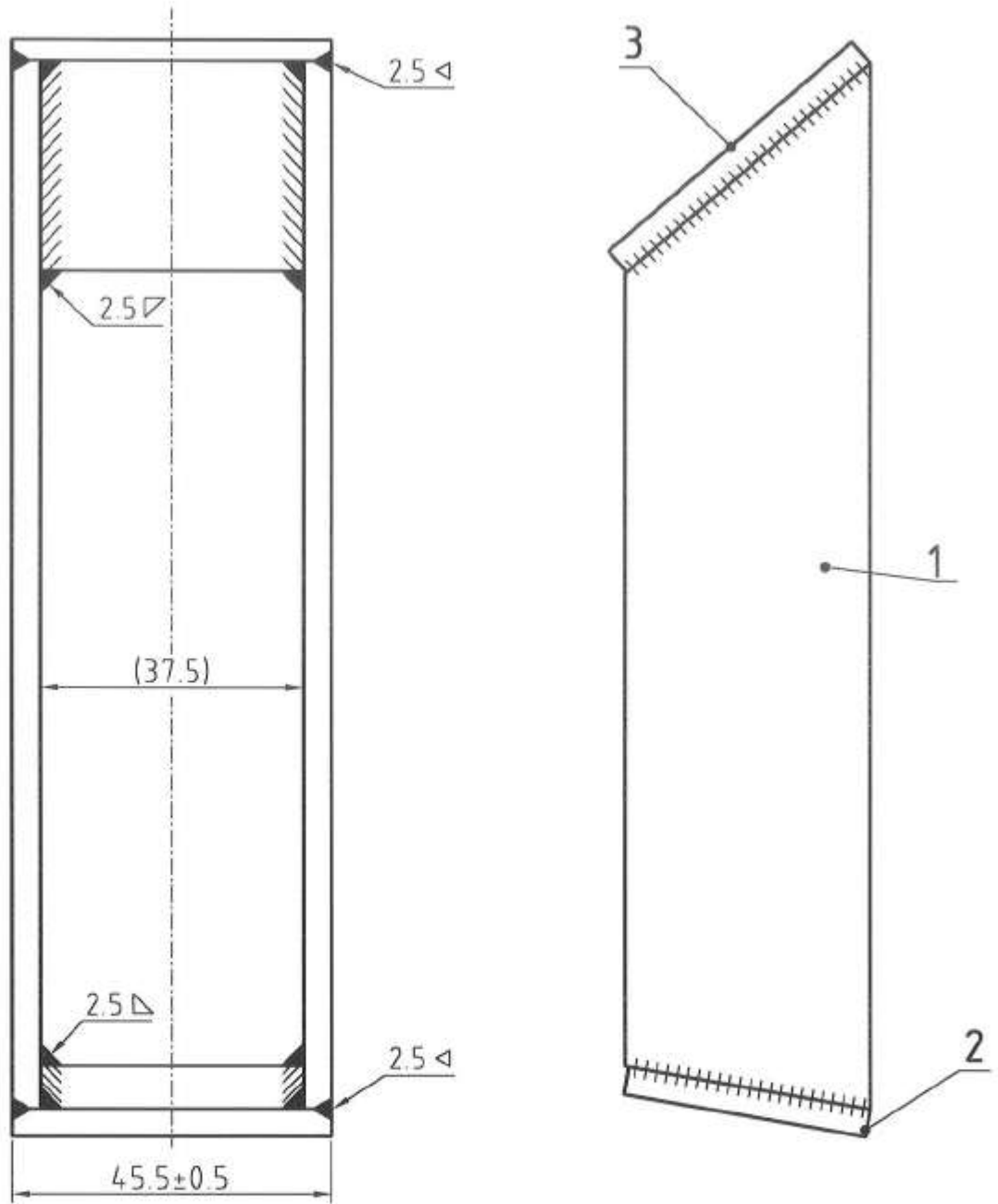
Top end plate	4 x 80 x 90	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: t.leder. 15.03.97
	Top end plate			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2318



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(A) (B) (C)

Flange	6 x 190 x 250	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 2	Drawn by: t.leder. 15.03.97
	Flange			Checked by: <i>[Signature]</i> 05.07.07
			Released by: <i>[Signature]</i> 09.07.07	
International Handpump Specification				C2319



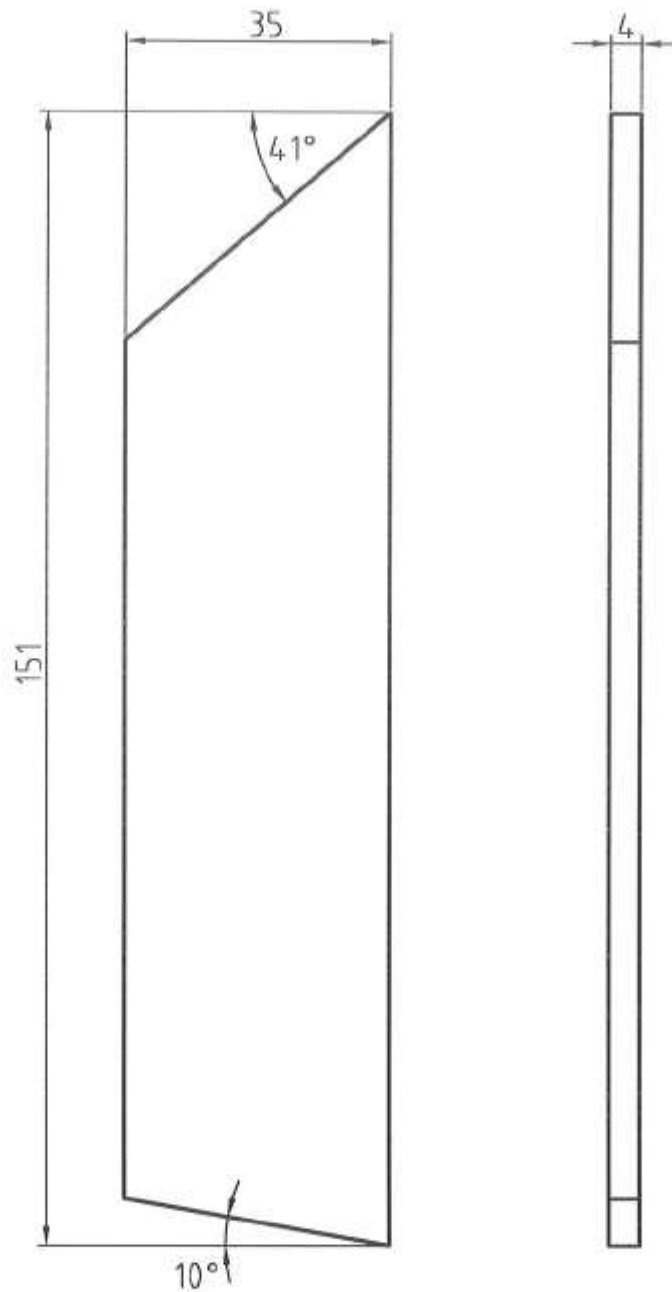
WELDED TO ISO 9692
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(A) (B)

Pos.	Qty.	Description	Drawing. No.	Remarks
3	1	Top plate	C2310	---
2	1	Bottom plate	C2309	---
1	2	Bracket plate	C2308	---





Rural Water Supply Network RWSN	Sub assembly	Scale: 1 : 1	Drawn by: K.Erpf	03.01.00
	Bracket assembly		Checked by: <i>[Signature]</i>	05.07.07
			Released by: <i>[Signature]</i>	09.07.07

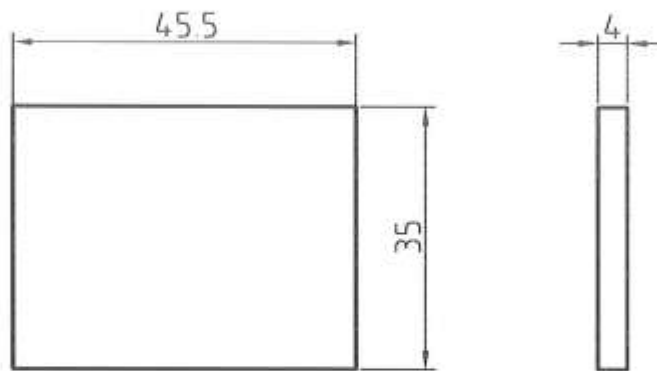
International Handpump Specification		B2307
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ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/- 0.5 UNLESS OTHERWISE STATED





(A) (B)

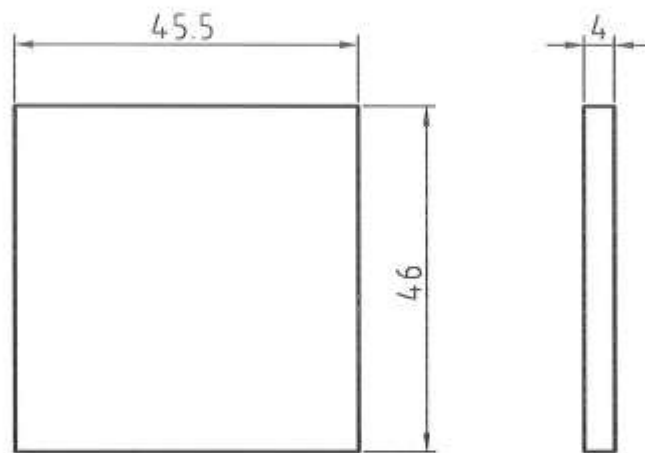
Bracket plate	4 x 35 x 151	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: t leder 15.03.97
	Bracket plate			Checked by:  05.07.07
			Released by:  09.07.07	
International Handpump Specification				C2308



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-0.5 UNLESS OTHERWISE STATED





(A) (B)

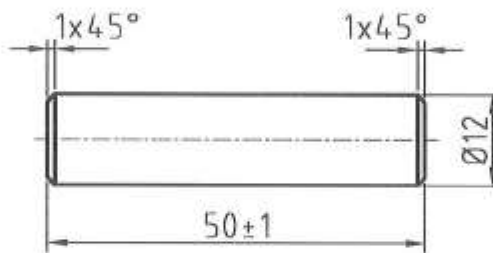
Bottom plate	4 x 35 x 45.5	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: f.leder. 15.03.97
	Bottom plate			Checked by:  05.07.07
				Released by:  09.07.07
International Handpump Specification				C2309



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 0.5 UNLESS OTHERWISE STATED





(A) (B)

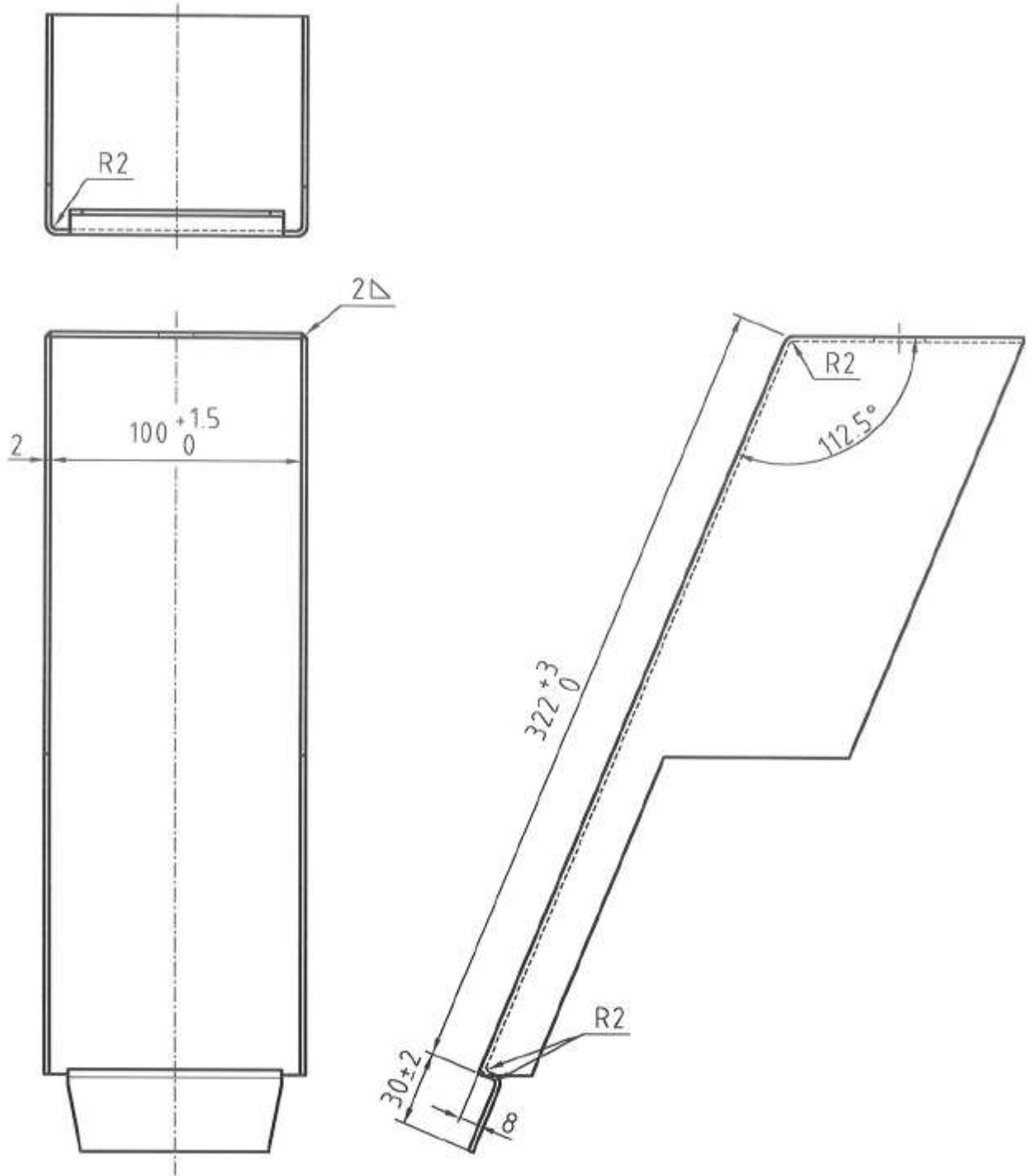
Top plate	4 x 46 x 45.5	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: t.leder. 15.03.97
	Top plate			Checked by:  05.07.07
				Released by:  09.07.07
International Handpump Specification				C2310



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-0.5 UNLESS OTHERWISE STATED

(A) (B)

Filler rod	Ø12 x 50	E 185	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 26.09.03
	Filler rod			Checked by:  05.07.07
				Released by:  09.07.07
International Handpump Specification				C2312



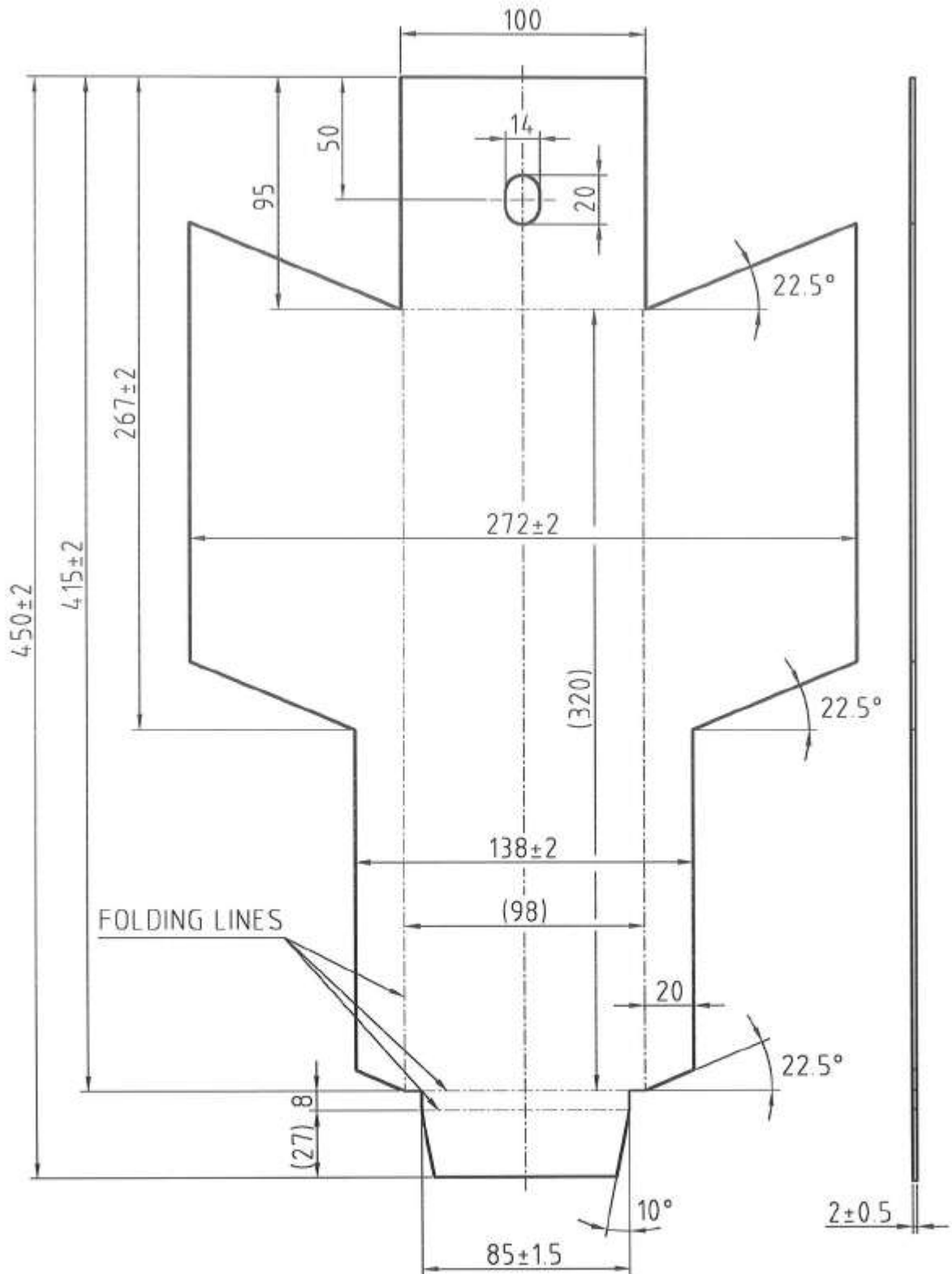
HOT DIP GALVANIZED TO ISO 1461
 GENERAL TOLERANCE +/- 0.5 UNLESS OTHERWISE STATED

(A) (B) (C)

Pos.	Qty.	Description	Drawing No.	Remarks
1	1	Front cover	C2321	---

Rural Water Supply Network RWSN	Sub assembly	Scale: 1 : 2.5	Drawn by: K.Erpf	15.02.00
	Front cover assy.		Checked by: <i>[Signature]</i>	05.07.07
			Released by: <i>[Signature]</i>	09.07.07

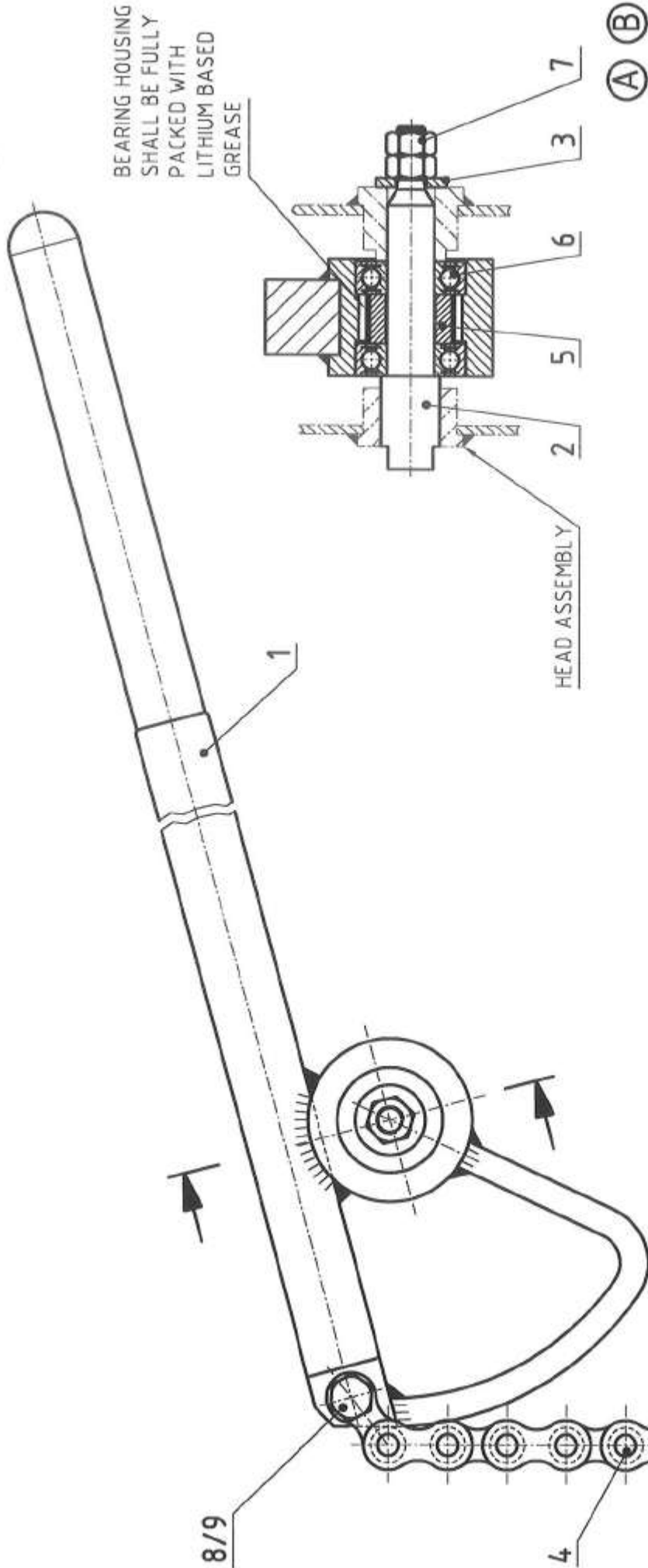
International Handpump Specification		B2320
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ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 1 UNLESS OTHERWISE STATED

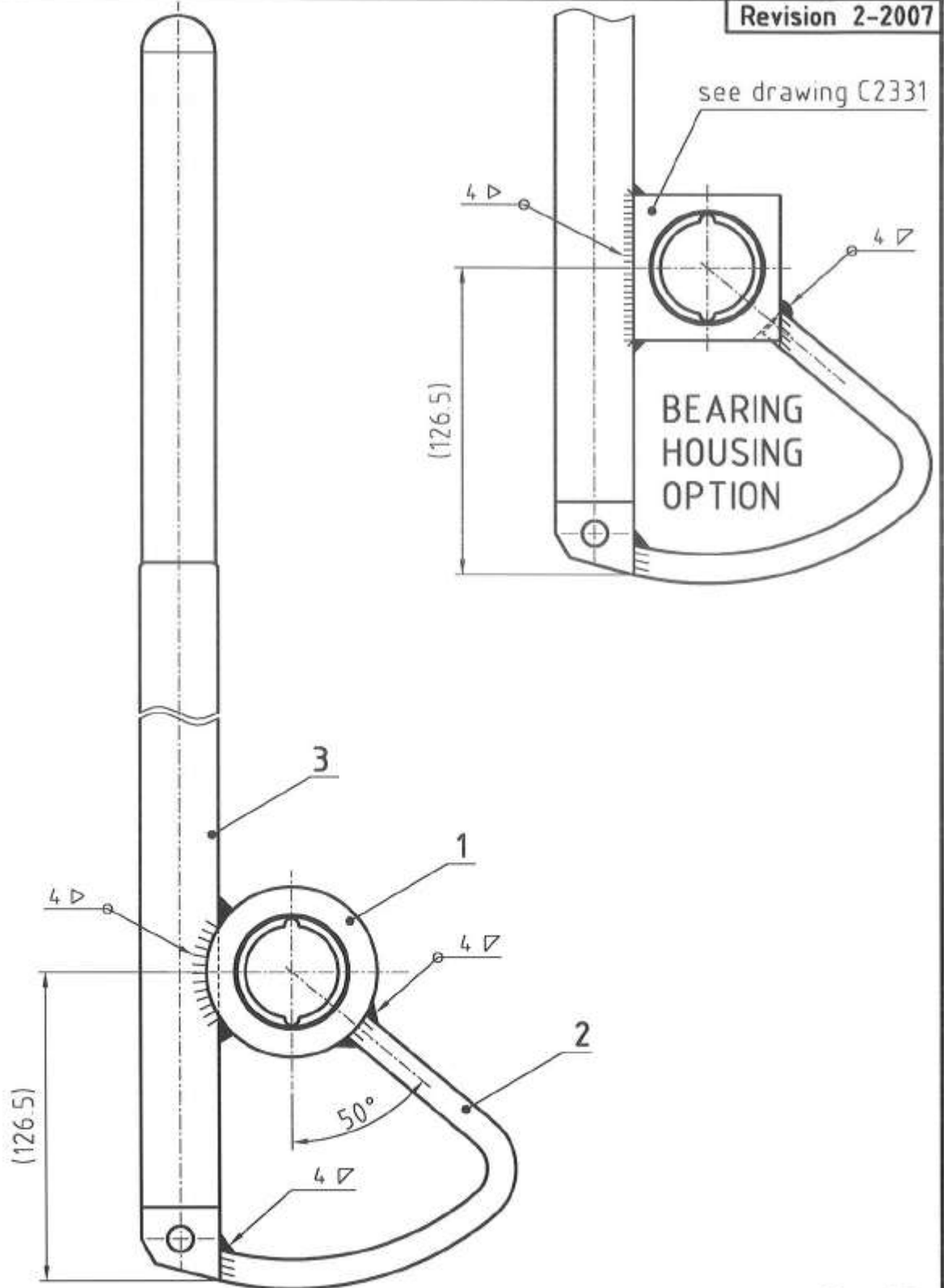
(A) (B) (C)

Front cover plate	2 x 272 x 450	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 2.5	Drawn by: K.Erpf 15.02.00
	Front cover plate			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2321



9	1	Hex. lock nut	C1034	M10
8	1	Hex bolt	C1033	M10x4.0
7	2	Hex nut	C1016	M12
6	2	Ball bearing	C1035	---
5	1	Spacer	C2332	---
4	1	Chain assembly	B2346	---
3	1	Axle washer	C2334	special
2	1	Handle axle	C2333	---
1	1	Handle assembly	B2326	---

Pos.	Qty.	Description	Drawing No.	Remarks
Sub assembly				
Rural Water Supply Network				
RWSN				
Handle arrangement				
Scale: 1:2.5				
Drawing No. A2325				
International Handpump Specification				
Drawn by: K.Erpf 15.02.06				
Checked by: [Signature] 05.07.07				
Released by: [Signature] 09.07.07				



WELDED TO ISO 9692
GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

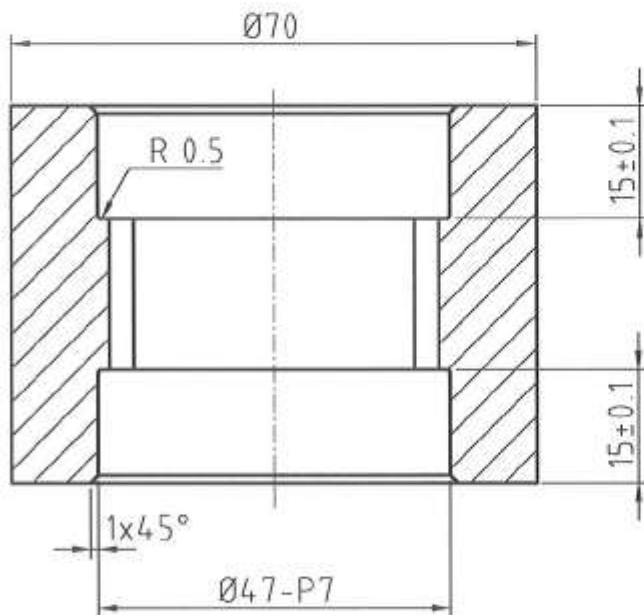
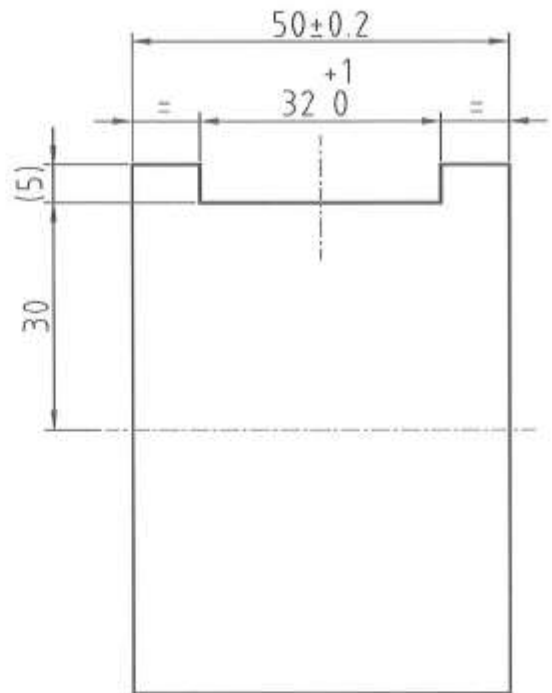
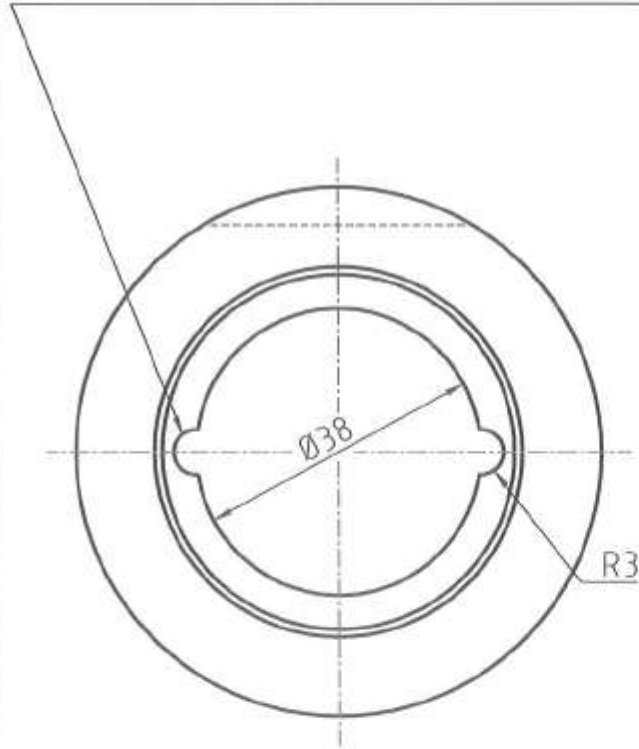
HOT DIP GALVANIZED TO ISO 1461

(A) (B)

Pos.	Qty.	Description	Drawing. No.	Remarks
3	1	Handle bar	C2329	---
2	1	Chain guide	C2328	---
1	1	Bearing housing	C2327	---

Rural Water Supply Network RWSN	Sub assembly	Scale: 1 : 2.5	Drawn by: K.Erpf	15.02.00
	Handle assembly		Checked by: <i>[Signature]</i>	05.07.07
			Released by: <i>[Signature]</i>	09.07.07
International Handpump Specification			B2326	

NOTE:
THESE GROOVES ARE USED FOR REMOVAL OF BALL BEARINGS, IF REPLACEMENT IS NEEDED.

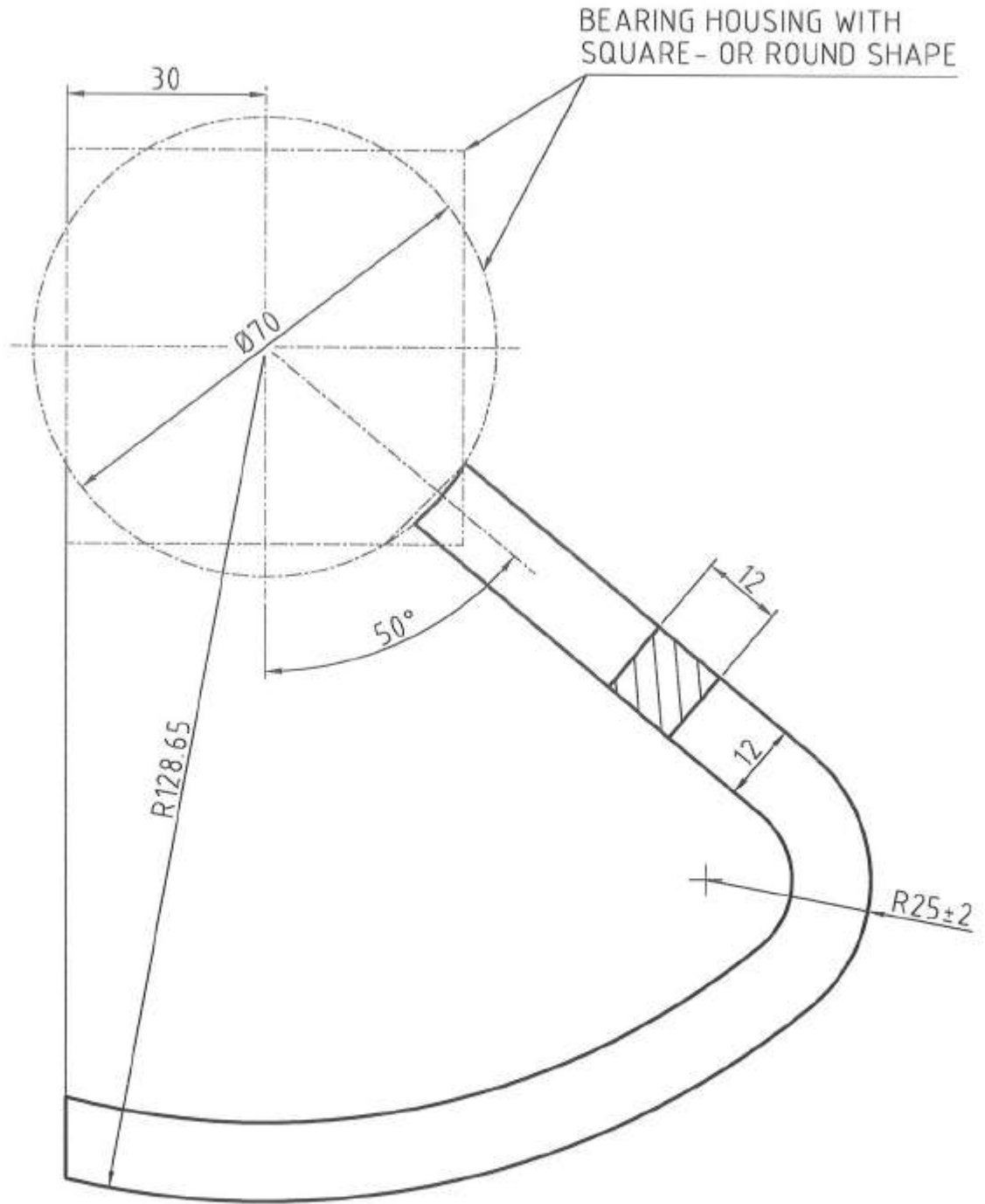


SEE ALSO OPTION C2331

ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE ± 0.5 UNLESS OTHERWISE STATED

(A) (B)

Bearing housing	Ø70 x 50	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: t leder 15.03.97
	Bearing housing			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2327

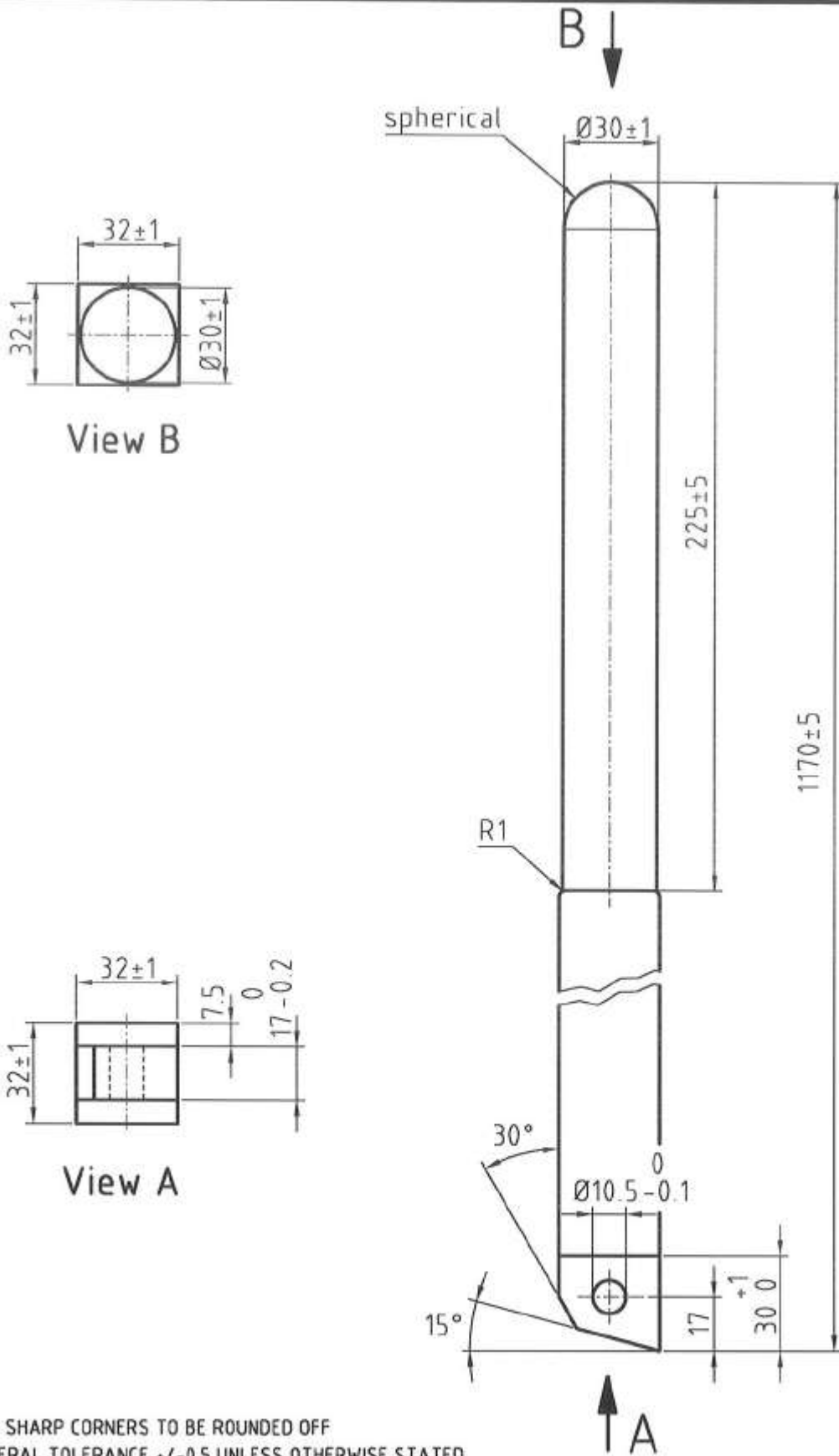


LENGTH PRIOR TO BENDING = 228 mm

ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 0.5 UNLESS OTHERWISE STATED


(A) (B) (C)

Chain guide	12/12 x 228	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Chain guide		Scale: 1 : 1	Drawn by: K.Erpf 15.02.00 Checked by: [Signature] 05.07.07 Released by: [Signature] 09.07.07
International Handpump Specification				C2328



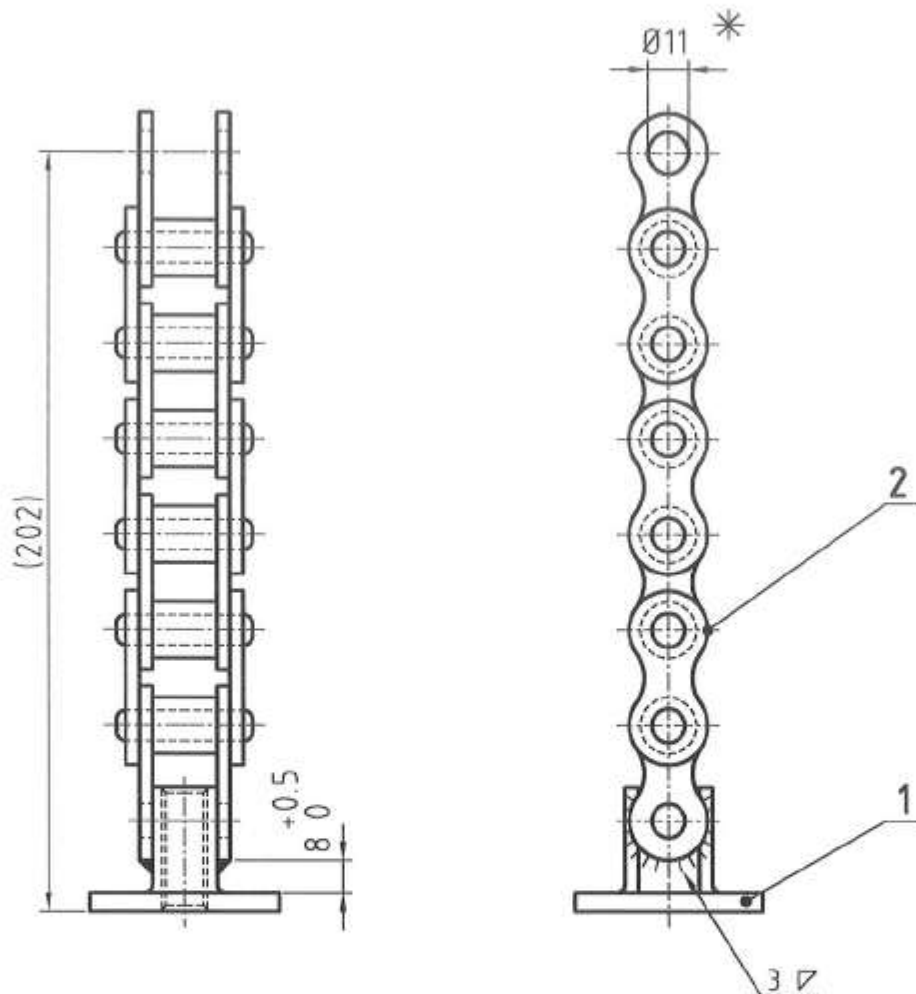
ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 0.5 UNLESS OTHERWISE STATED

(A) (B)

Handle bar	32/32 x 1170	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 2	Drawn by: K.Erpf 15.02.00
	Handle bar			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2329

* LAST HOLE TO BE OPENED WITH A HARD METAL DRILL BIT

Revision 2-2007



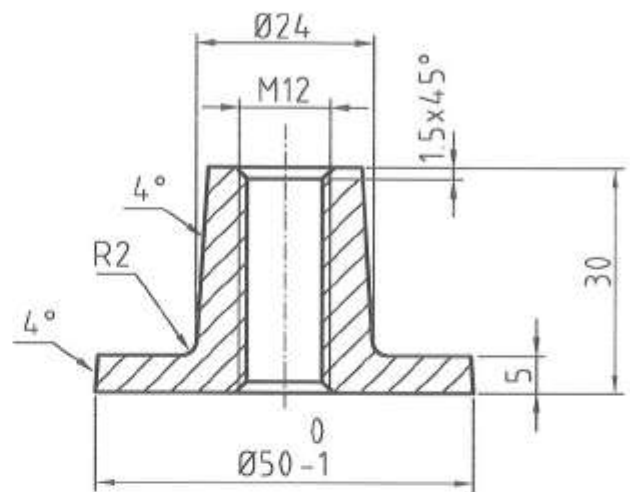
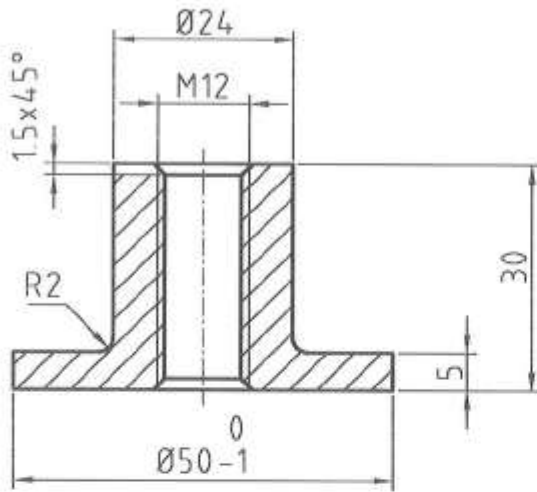
GENERAL TOLERANCE +/-0.5 UNLESS OTHERWISE STATED

(A) (B) (C)

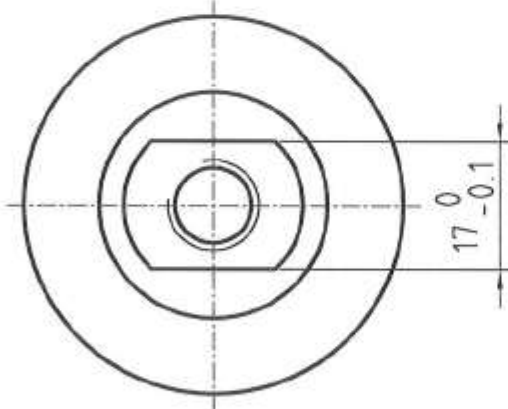
2	1	Chain	C1032	---
1	1	Chain coupling	C2330	---
Pos.	Qty.	Description	Drawing. No.	Remarks

Rural Water Supply Network RWSN	Sub assembly		Scale: 1 : 2	Drawn by: K.Erpf	07.10.02
	Chain assembly			Checked by: <i>[Signature]</i>	05.07.07
				Released by: <i>[Signature]</i>	09.07.07

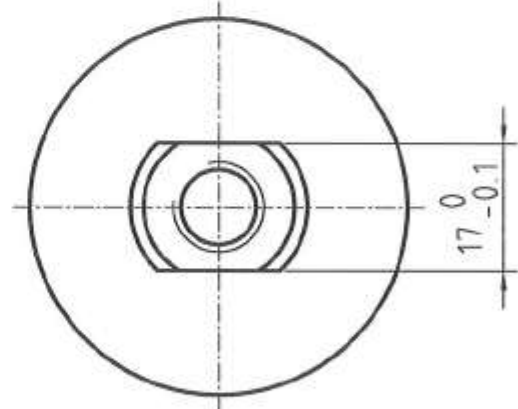
International Handpump Specification		B2346
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MACHINED




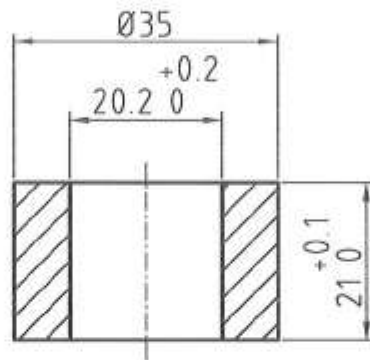
FORGED



ELECTROPLATED TO ISO 2081/82
 ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 0.5 UNLESS OTHERWISE STATED





(A) (B) (C)

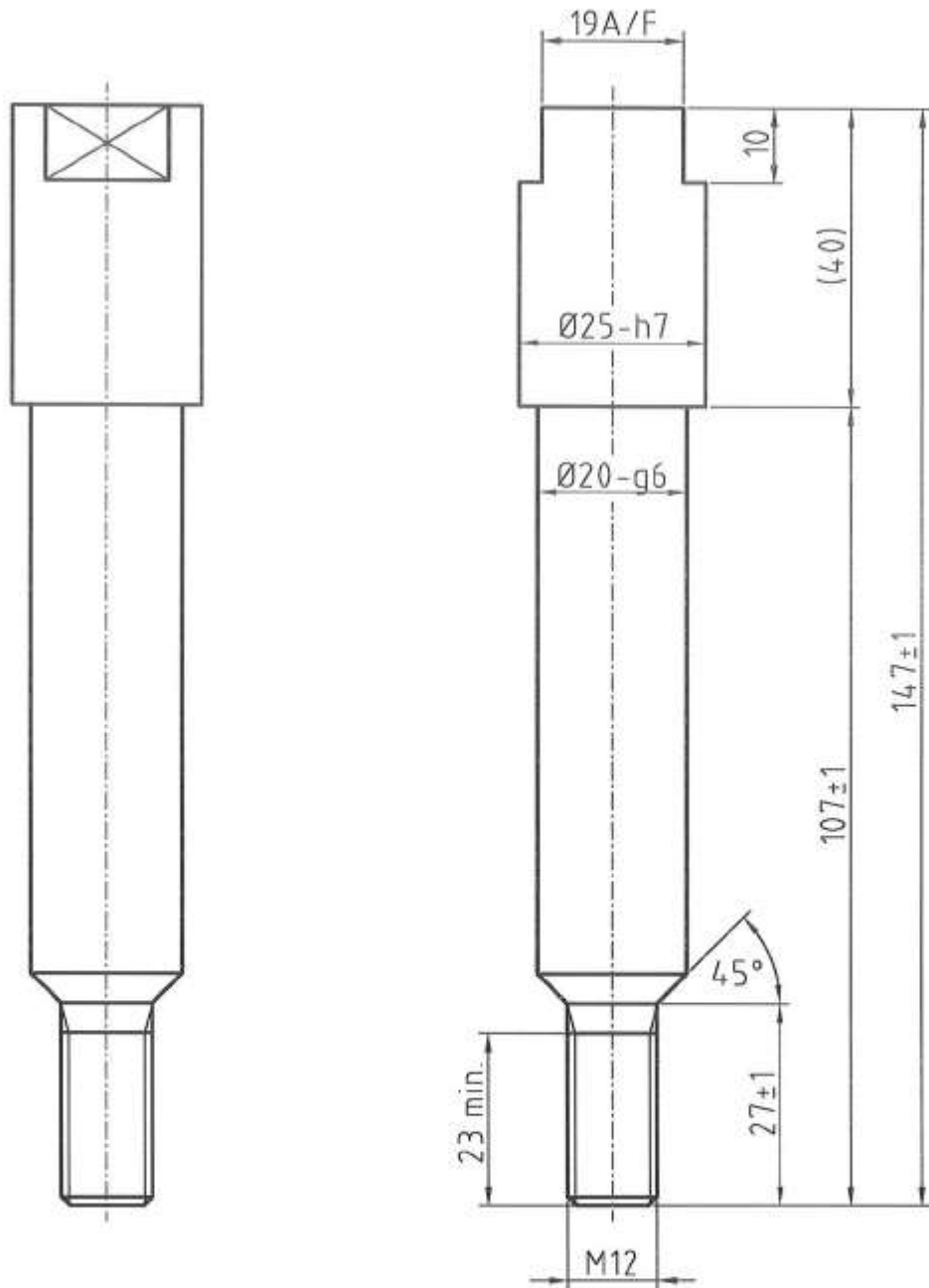
Chain coupling	Ø50 x 30	E 355	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 26.09.03
	Chain coupling			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2330



ELECTROPLATED TO ISO 2081/82
 ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-0.5 UNLESS OTHERWISE STATED

(A) (B) (C)

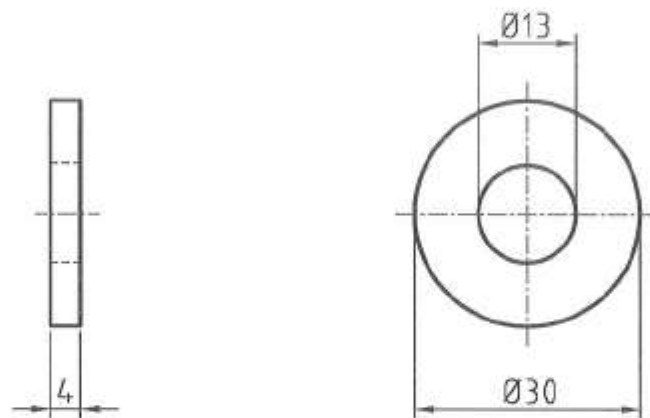
Spacer	Ø35/20.2 x 21	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1:1	Drawn by: t.leder 15.03.97
	Spacer			Checked by:  05.07.07
				Released by:  09.07.07
International Handpump Specification				C2332



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-0.5 UNLESS OTHERWISE STATED





(A) (B) (C)

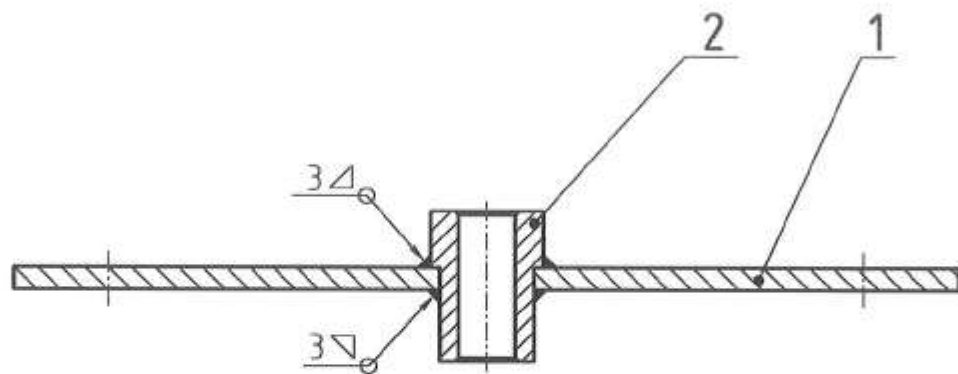
Handle axle	Ø25 x 147	Stainless St.	ISO 15510	X5CrNi 18-9
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: f.leder. 15.03.97
	Handle axle			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2333



ELECTROPLATED TO ISO 2081/82
 ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-0.5 UNLESS OTHERWISE STATED

(A) (B) (C)

Axle washer	Ø30/13 x 4	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: t.leder 15.03.97
	Axle washer			Checked by:  05.07.07
				Released by:  09.07.07
International Handpump Specification				C2334

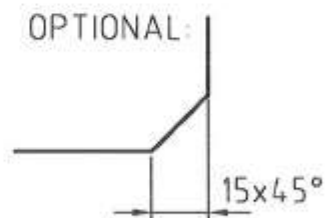
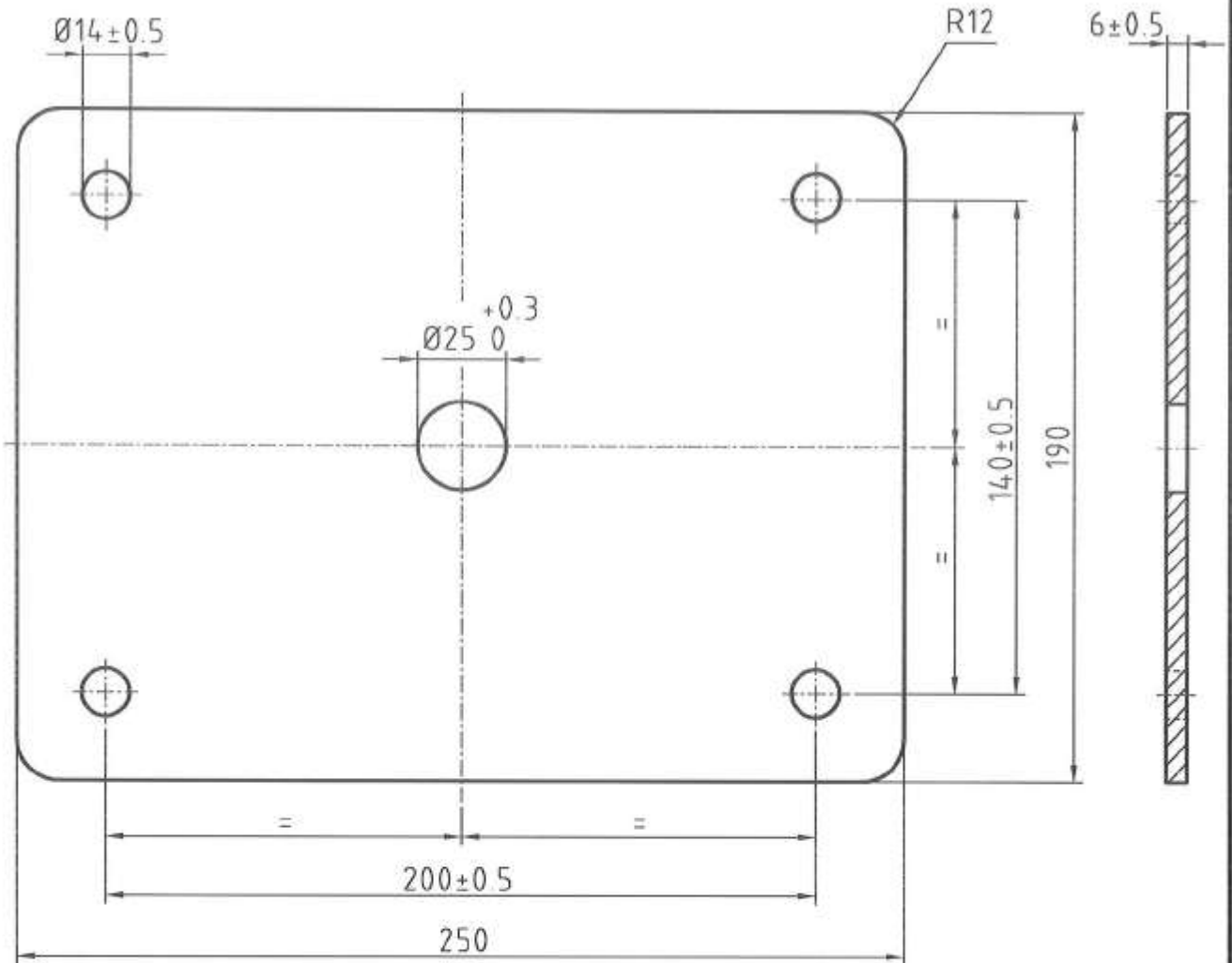


WELDED TO ISO 9692
HOT DIP GALVANIZED TO ISO 1461

(A) (B) (C)

Pos.	Qty.	Description	Drawing. No.	Remarks
2	1	Guide bush	C2337	---
1	1	Flange	C2336	---

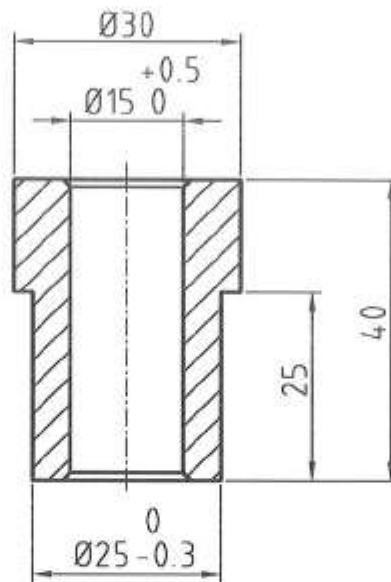
Rural Water Supply Network RWSN	Sub assembly		Scale: 1 : 2	Drawn by: t.leder. 15.03.97
	Third plate assy.			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				B2335



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 1 UNLESS OTHERWISE STATED





(A) (B) (C)

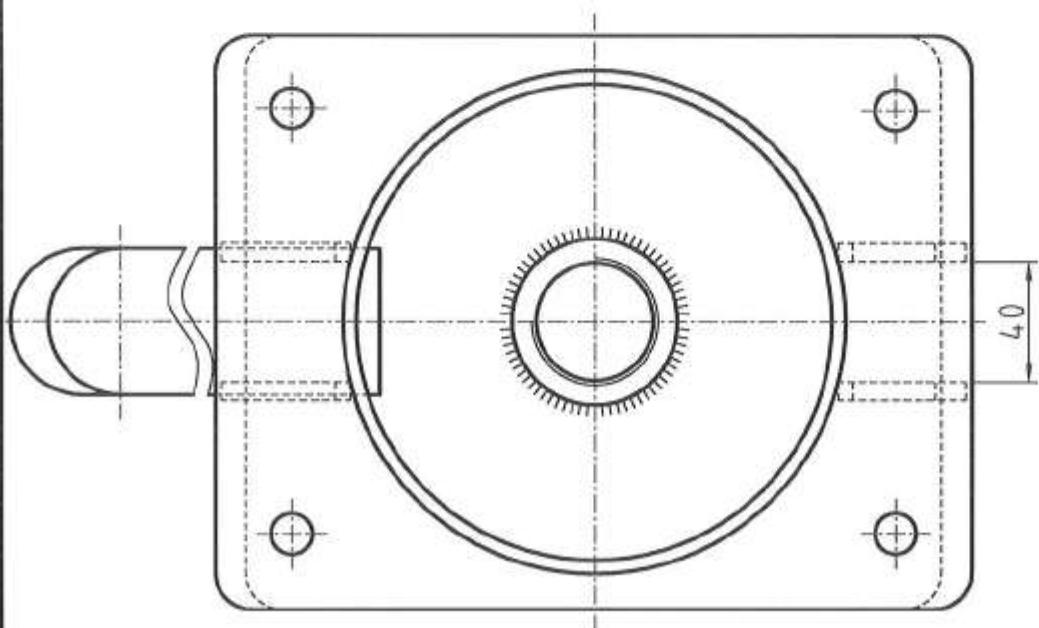
Flange	6 x 190 x 250	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing	Flange	Scale: 1 : 2	Drawn by: t.leder. 15.03.97
				Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2336



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 0.1 UNLESS OTHERWISE STATED

(A) (B) (C)

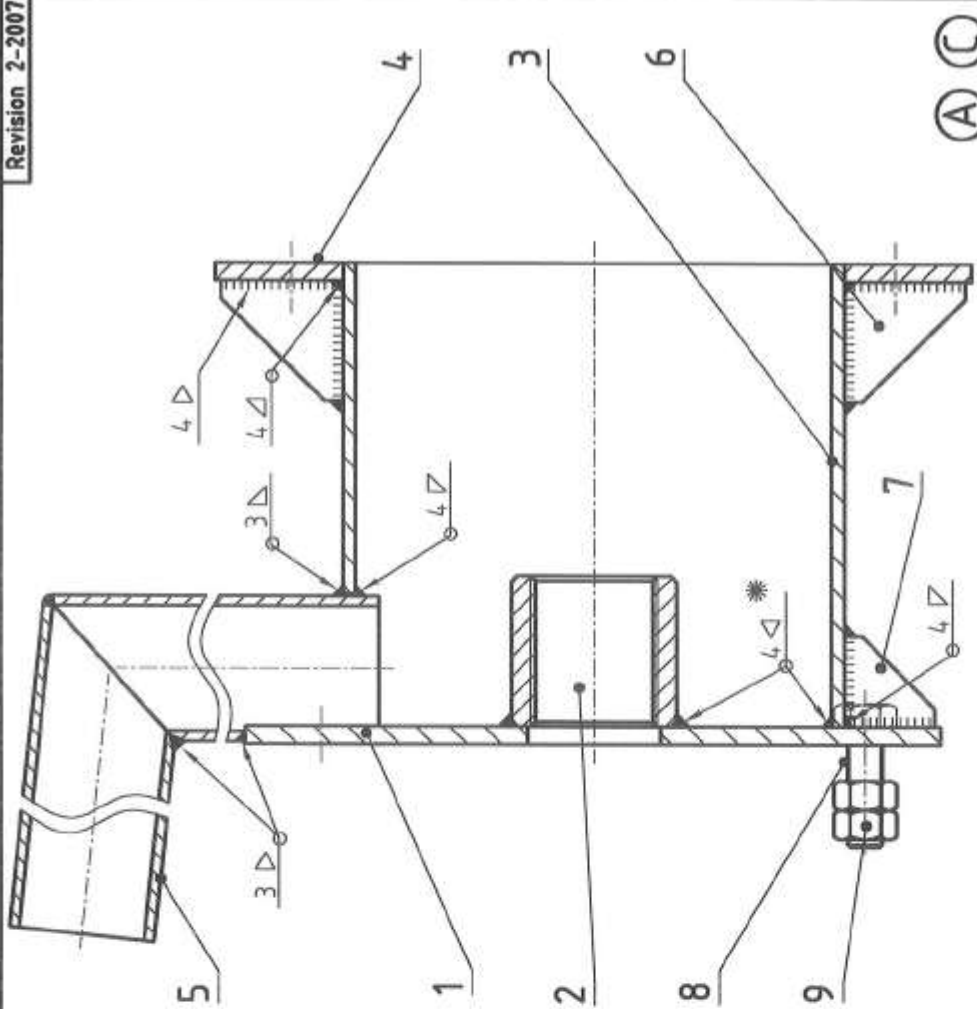
Guide bush	$\varnothing 30 \times 40$	E 355	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 26.09.03
	Guide bush			Checked by:  05.07.07
				Released by:  09.07.07
International Handpump Specification				C2337



* THE INSIDE WELDING OF THE TANK PIPE, RISER PIPE HOLDER AND SPOUT SHALL BE GIVEN A SEALING RUN

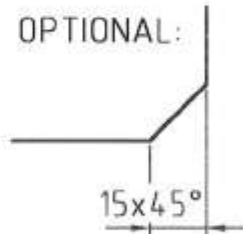
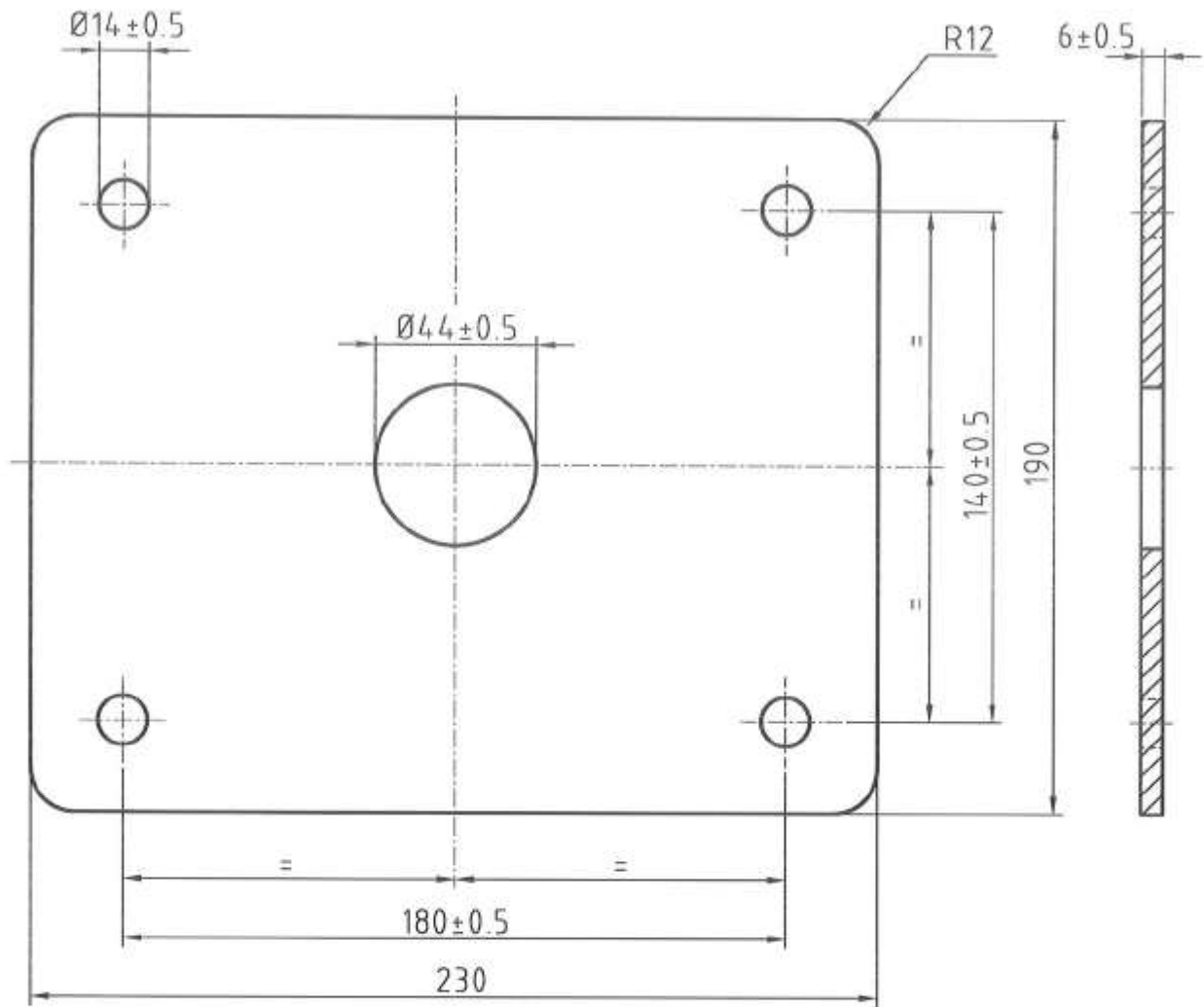
HOT DIP GALVANIZED TO ISO 14.61
GENERAL TOLERANCES +/- 2 UNLESS OTHERWISE STATED

Pos.	Qty.	Description	Drawing No.	Remarks
9	8	Hex nut	C1016	M12
8	4	Hex bolt	C1017	M12x4.0
7	2	Gusset	C2269	---



Pos.	Qty.	Description	Drawing No.	Remarks
6	4	Gusset	C2345	---
5	1	Spout assembly	B2367	---
4	1	Flange	C2344	---
3	1	Tank pipe	C2343	---
2	1	Riser pipe holder	C2342	---
1	1	Flange	C2341	---

Rural Water Supply Network		Sub assembly	
RWSN		Water tank assy.	
Scale:		1 : 2.5	
Drawn by:	I.leder	15.03.97	
Checked by:		05.07.07	
Released by:		09.07.07	
International Handpump Specification		B2340	



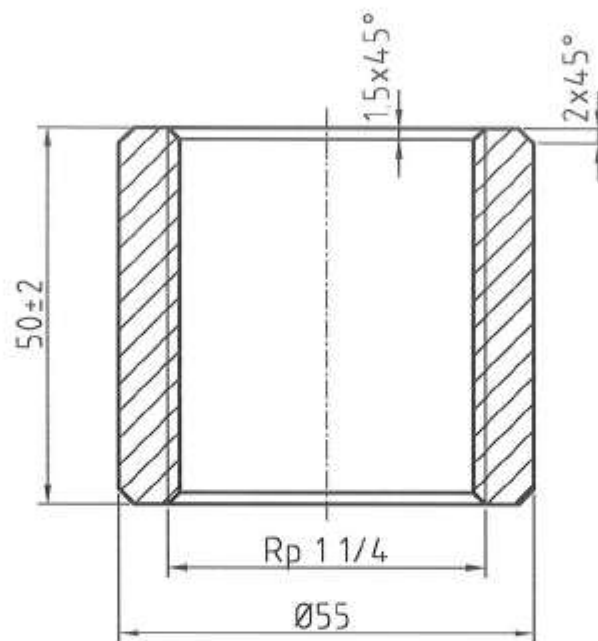
ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(A) (C)

Flange	6 x 190 x 230	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 2	Drawn by: t.leder 15.03.97
	Flange			Checked by: <i>[Signature]</i> 05.07.07
			Released by: <i>[Signature]</i> 09.07.07	
International Handpump Specification				C2341





NOTE: THIS COMPONENT HAS TO BE MADE OF STRUCTURAL STEEL,
DON'T USE STANDARD SOCKET OF 1 1/4" !

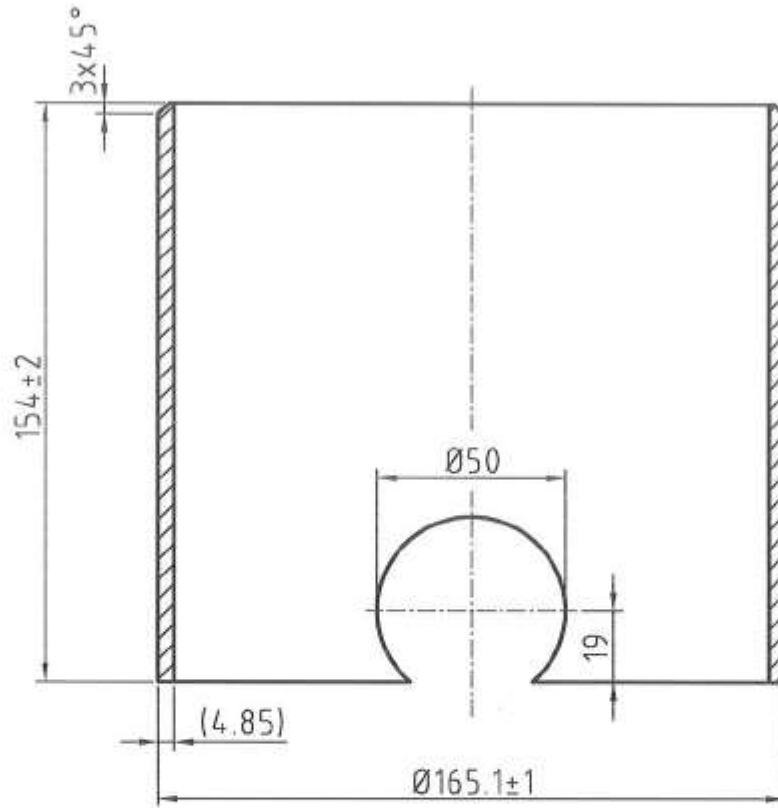
Revision 2-2007



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(A) (C)

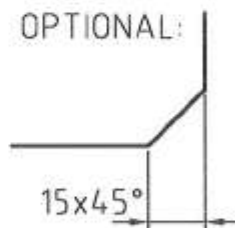
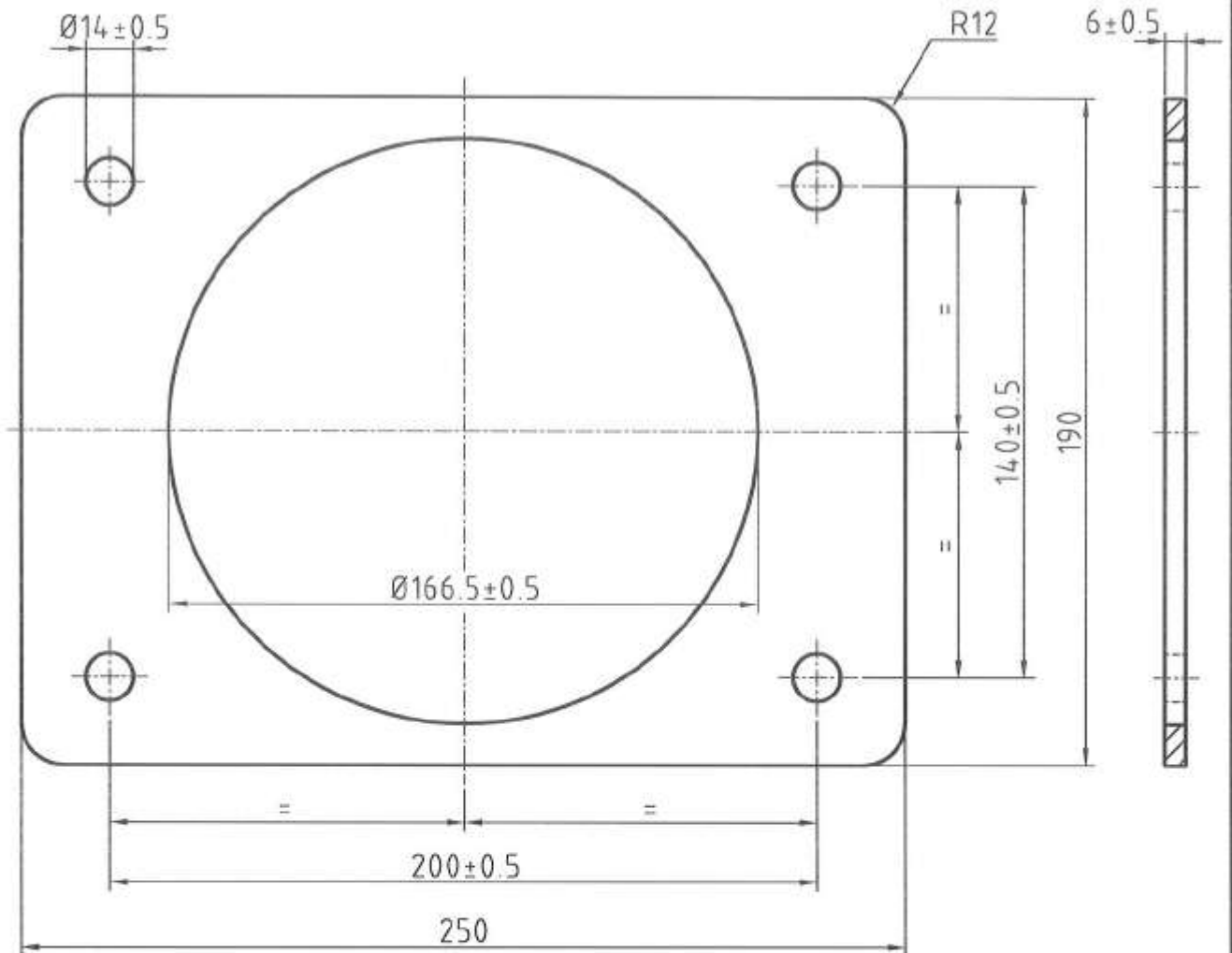
Riser pipe holder	Ø55 x 50	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: t.leder. 15.03.97
	Riser pipe holder			Checked by:  05.07.07
				Released by:  09.07.07
International Handpump Specification				C2342



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/- 0.5 UNLESS OTHERWISE STATED

(A) (B) (C)

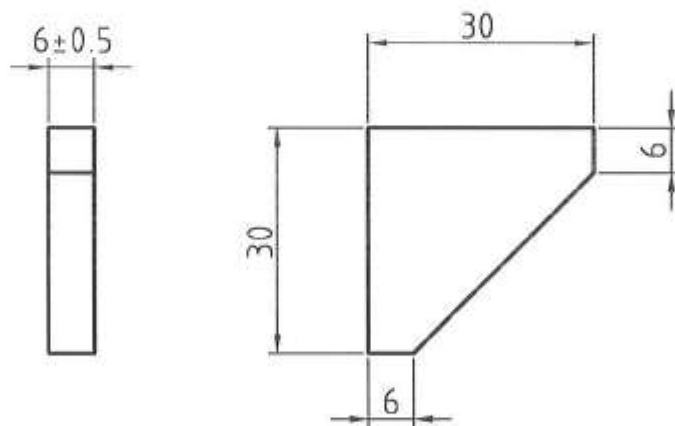
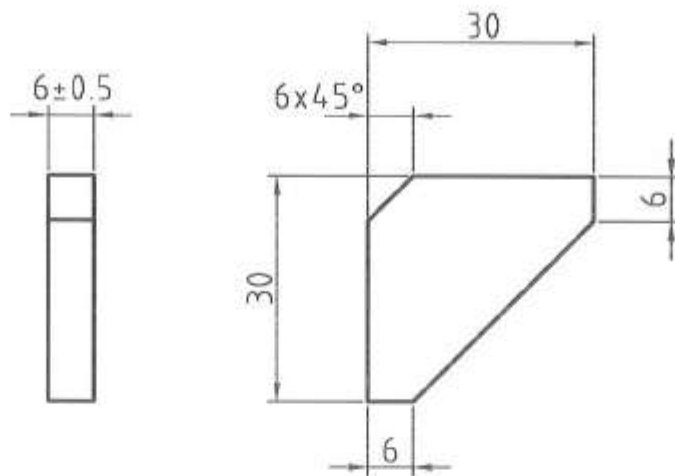
Tank pipe	Ø165.1/4.85 x 154	ST 320	NB150, medium	6"
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 2	Drawn by: K.Erpf 15.03.00
	Tank pipe			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2343



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(A) (B) (C)





Flange	6 x 190 x 250	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing	Flange	Scale: 1 : 2	Drawn by: t.leder. 15.03.97
				Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2344

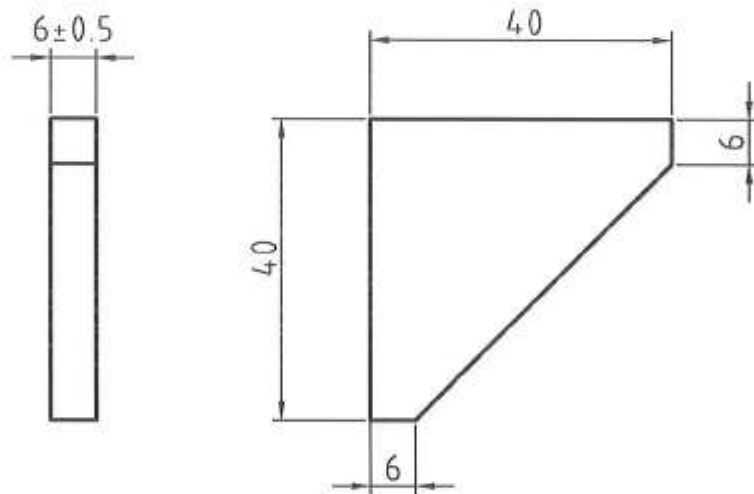
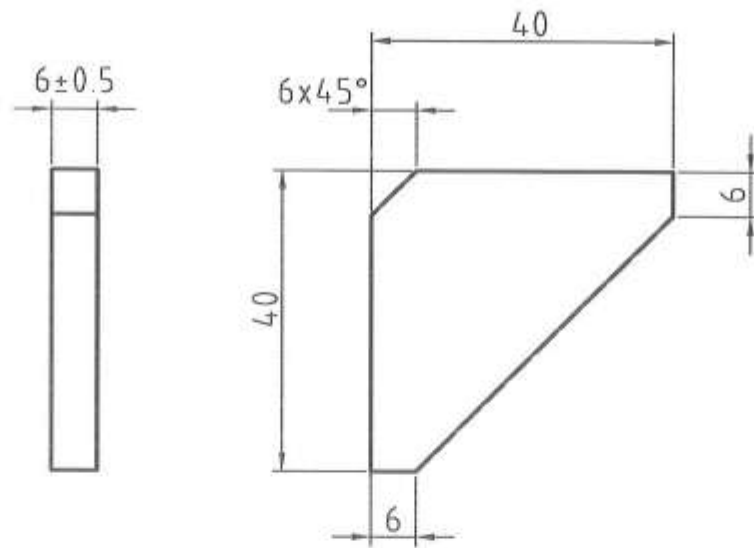


BOTH SHAPES ARE PERMISSIBLE

ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED







Gusset	6 x 30 x 30	E 235	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 19.11.98
	Gusset			Checked by:  05.07.07
				Released by:  09.07.07
International Handpump Specification				C2269

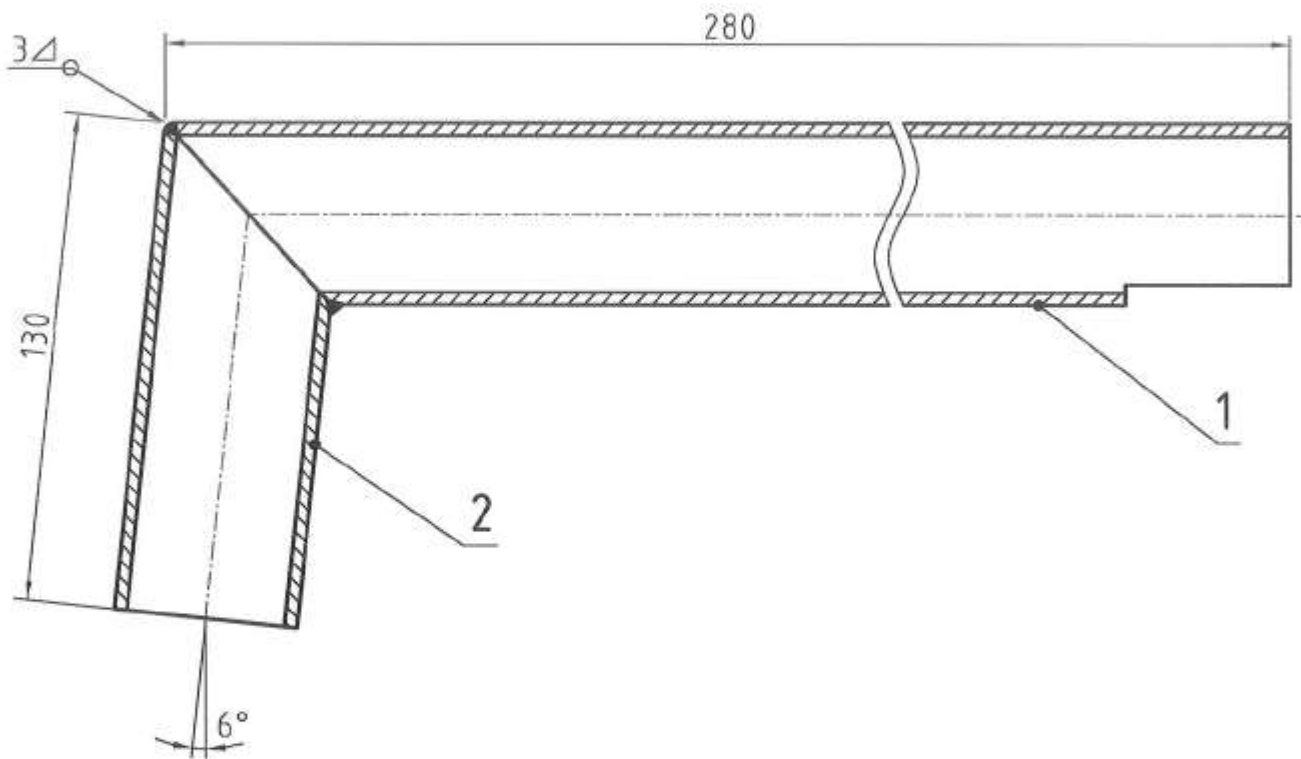


BOTH SHAPES ARE PERMISSIBLE

ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(A) (B) (C)

Gusset	6 x 40 x 40	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing Gusset	Scale: 1 : 1	Drawn by: K.Erpf 19.11.98	
			Checked by:  05.07.07	
International Handpump Specification				C2345
			Released by:  09.07.07	

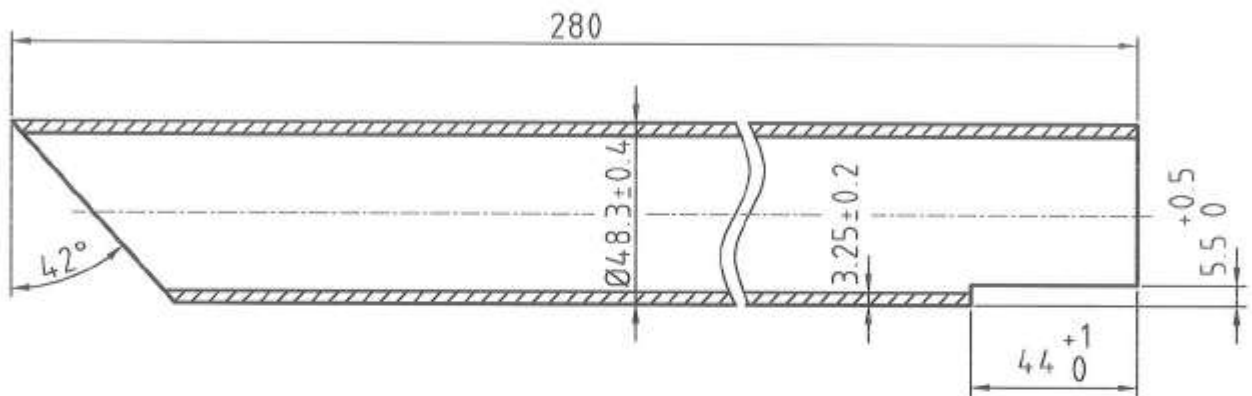


WELDED TO ISO 9692
 GENERAL TOLERANCE ± 0.5 UNLESS OTHERWISE STATED

(A) (B) (C)

Pos.	Qty.	Description	Drawing. No.	Remarks
2	1	Spout end	C2369	---
1	1	Spout pipe	C2368	---

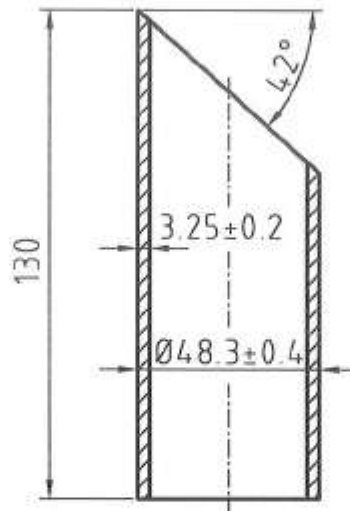
Rural Water Supply Network RWSN	Sub assembly		Scale: 1 : 2	Drawn by: K.Erpf	14.02.00
	Spout assembly			Checked by: <i>[Signature]</i>	05.07.07
				Released by: <i>[Signature]</i>	09.07.07
International Handpump Specification				B2367	



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 2 UNLESS OTHERWISE STATED





(A) (B) (C)

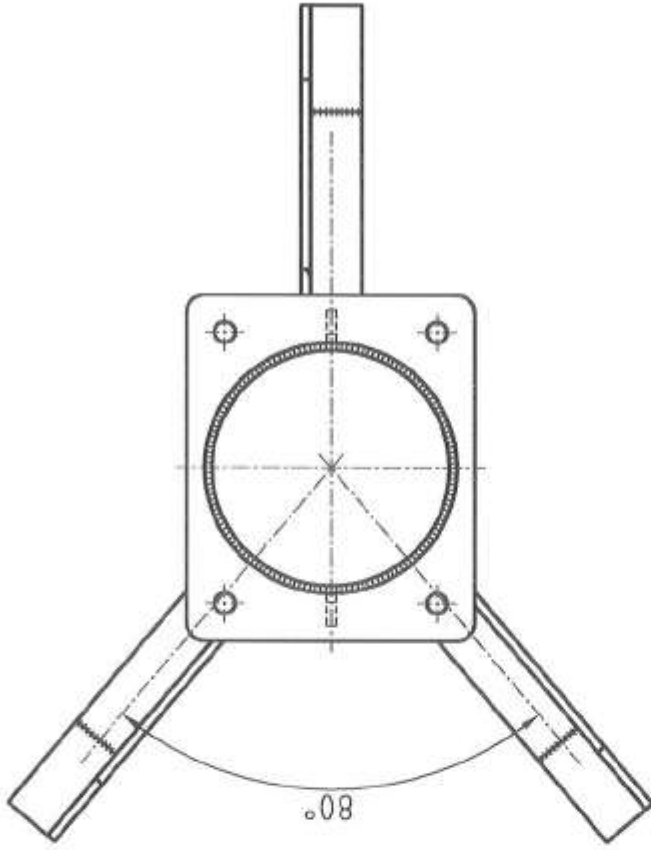
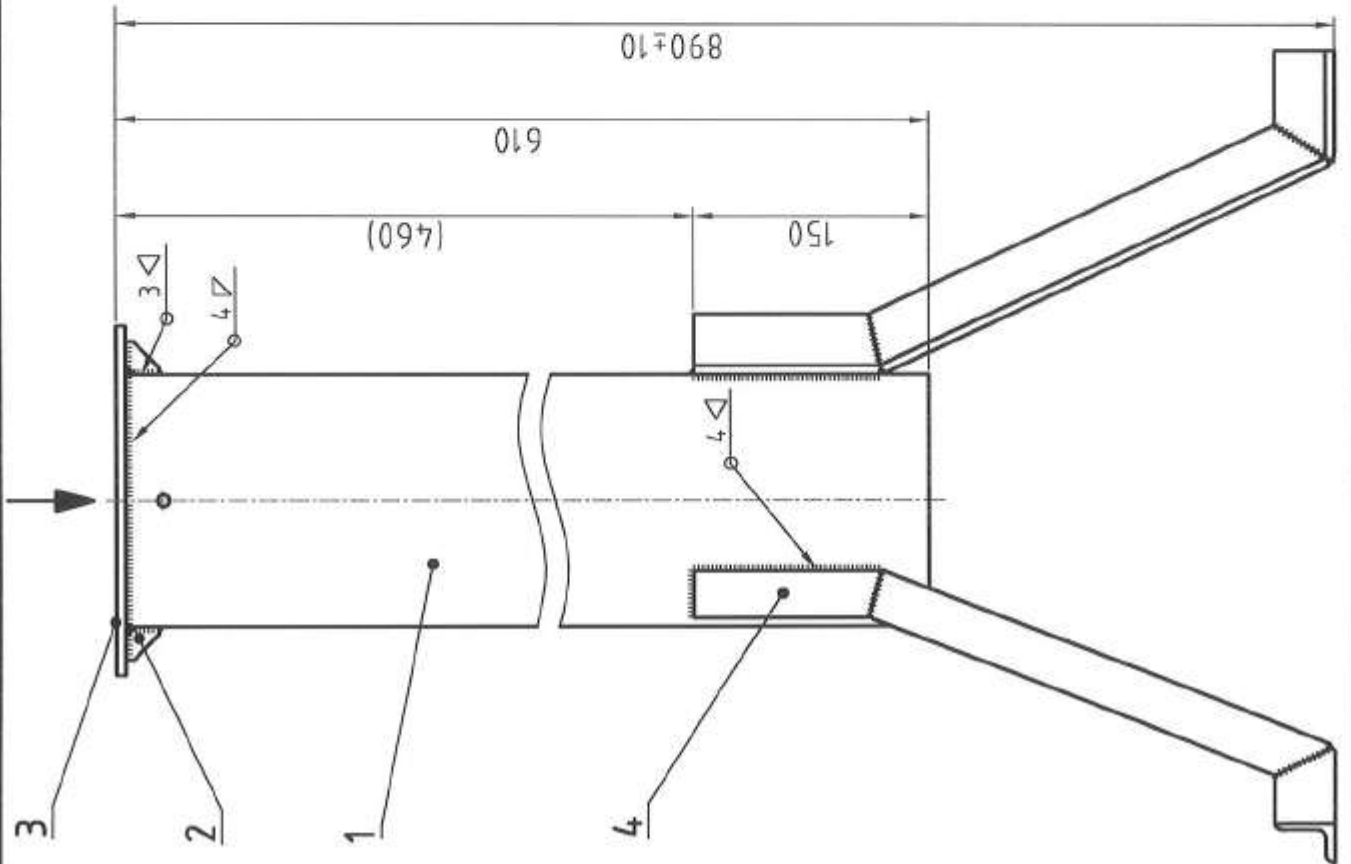
Spout pipe	$\text{Ø}48.4/3.25 \times 280$	ST 320	NB40, medium	(1 1/2")
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 2	Drawn by: K.Erpf 16.12.99 Checked by: 05.07.07 Released by: 09.07.07
	Spout pipe			
International Handpump Specification				



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-2 UNLESS OTHERWISE STATED

(A) (B) (C)

Spout end	Ø48.4/3.25 x 130	ST 320	NB40, medium	(1 1/2")
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing Spout end	Scale: 1 : 2		Drawn by: K.Erpf 16.12.99
				Checked by:  05.07.07
				Released by:  09.07.07
International Handpump Specification				C2369



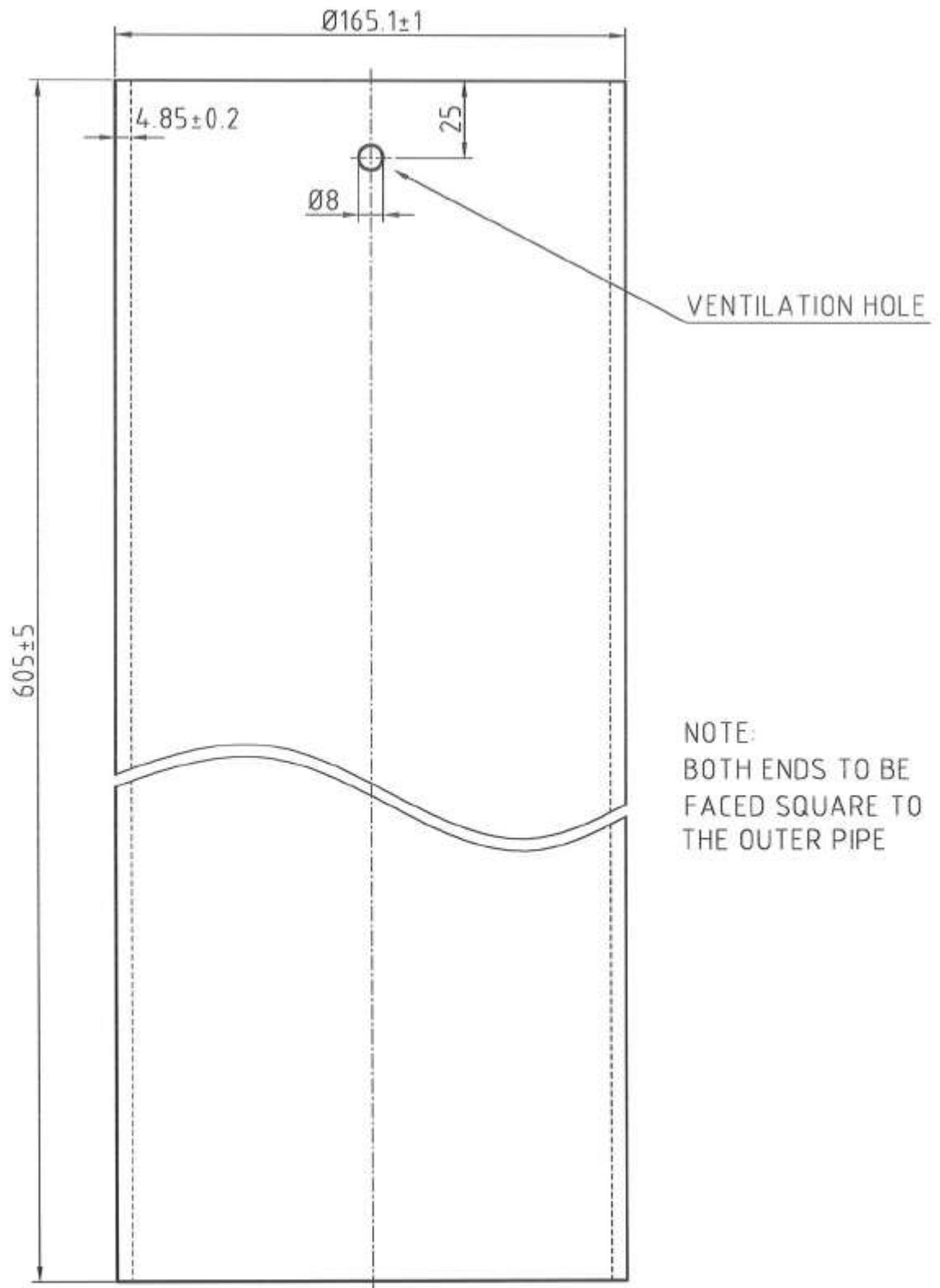
Used for Casing pipes Ø4" , Ø4.5" and Ø5"

WELDED TO ISO 9692
HOT DIP GALVANISED TO ISO 1461
GENERAL TOLERANCE +/-5 UNLESS OTHERWISE STATED

(A) (B) (C)

Pos.	Qty.	Description	Drawing. No.	Remarks
4	3	Leg	C2054	---
3	1	Flange	C2053	---
2	2	Gusset	C2052	---
1	1	Stand pipe	C2292	---

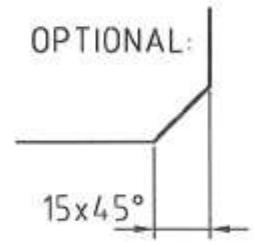
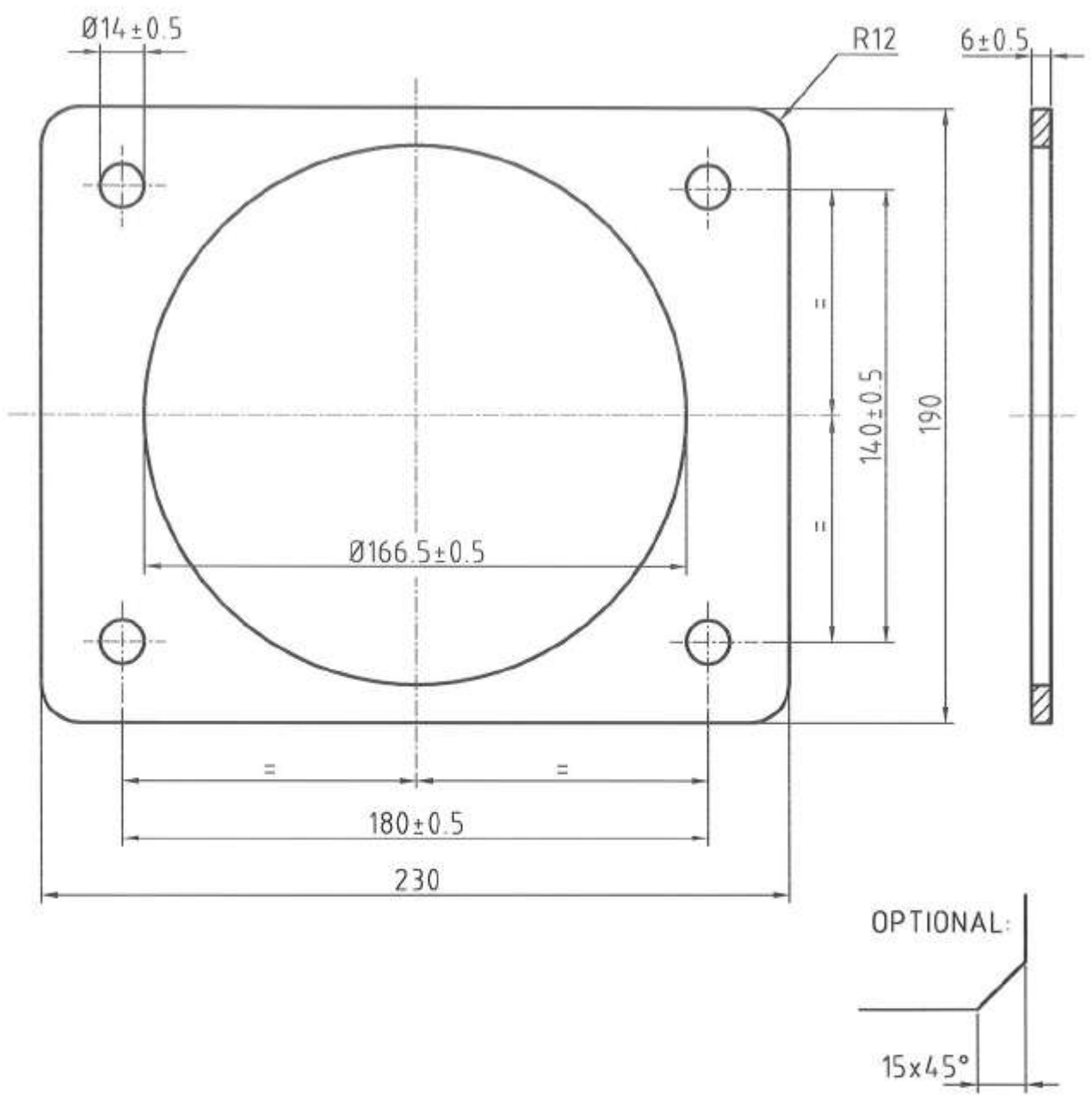
Rural Water Supply Network		Sub assembly	
RWSN		Stand assy. NB150	
Scale:		1:5	
Drawn by:	K.Erpl	15.03.00	
Checked by:	[Signature]	05.07.07	
Released by:	[Signature]	09.07.07	
International Handpump Specification			B2348



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 2 UNLESS OTHERWISE STATED

(A) (B) (C)

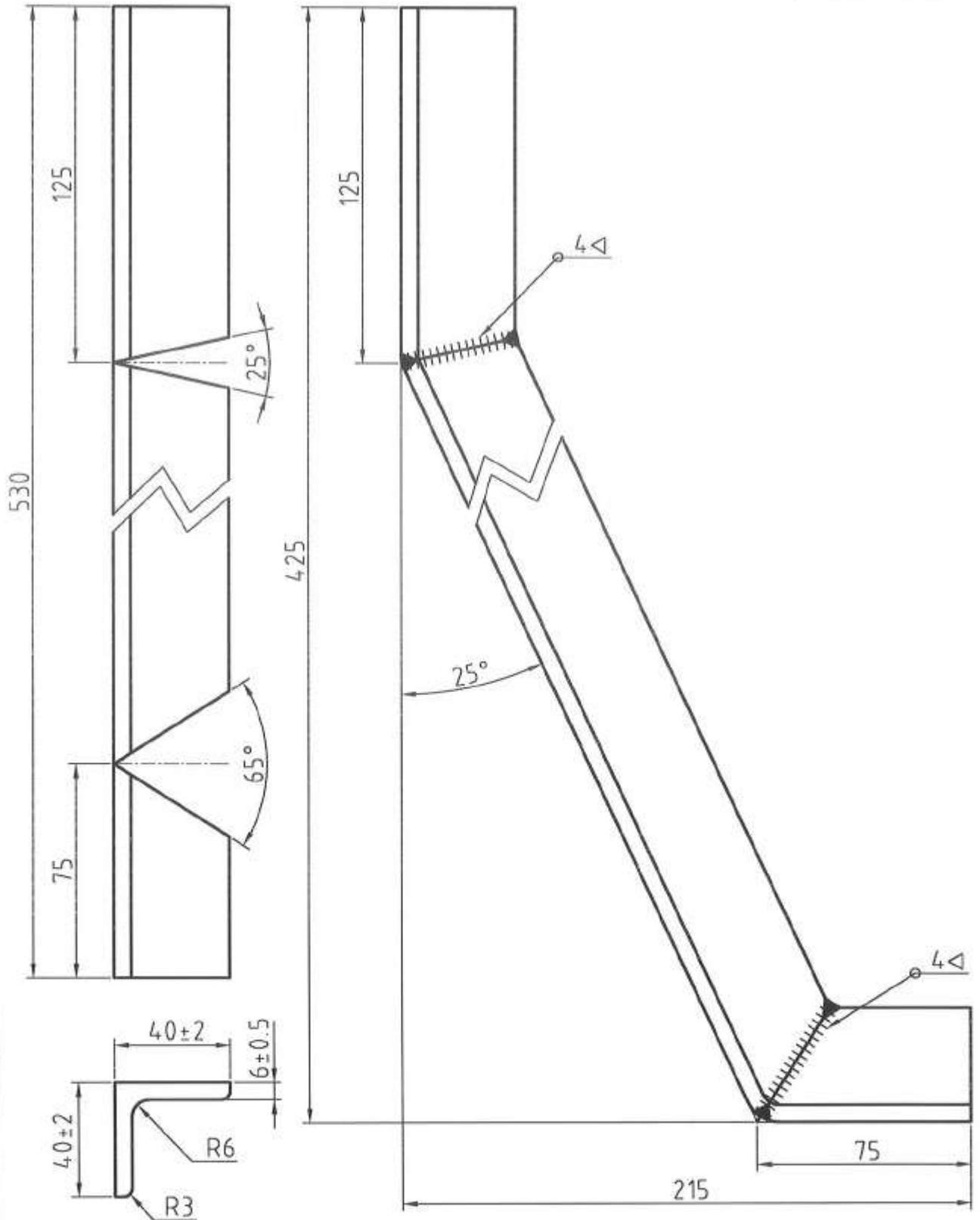
Stand pipe	$\text{Ø}165.1/4.85 \times 605$	ST 320	NB150, medium	6"
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale:	Drawn by: K.Erpf 15.03.00
	Stand pipe		1 : 2	Checked by: 05.07.07
				Released by: 09.07.07
International Handpump Specification				C2292



GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

ALL SHARP CORNERS TO BE ROUNDED OFF

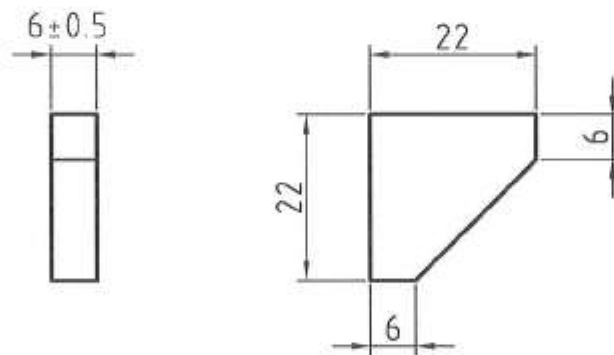
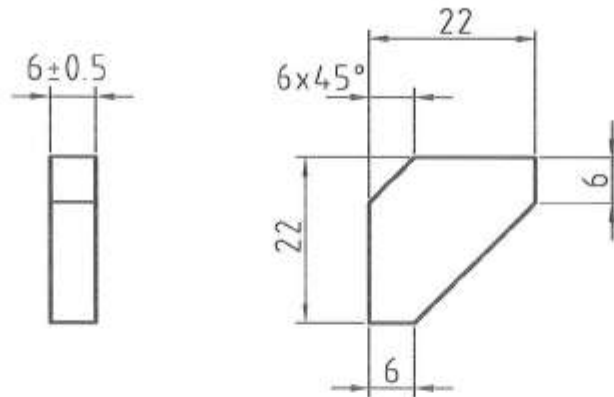
Flange	6 x 190 x 230	E 235	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 2	Drawn by: t.leder, 15.03.97
	Flange			Checked by: <i>[Signature]</i> , 02.03.07
				Released by: <i>[Signature]</i> , 07.03.07
International Handpump Specification				C2053



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 0.5 UNLESS OTHERWISE STATED



Leg	EA 40 x 40 x 6 - 530	E 235	ISO 657-1	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing	Leg	Scale:	Drawn by: f.leder. 15.03.97
			1 : 2	Checked by: [Signature] 02.03.07
				Released by: [Signature] 07.03.07
International Handpump Specification				C2054



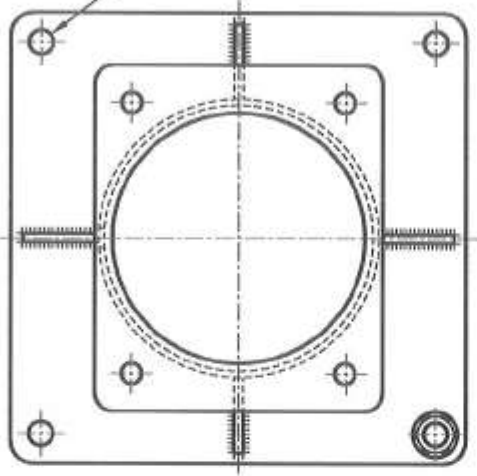
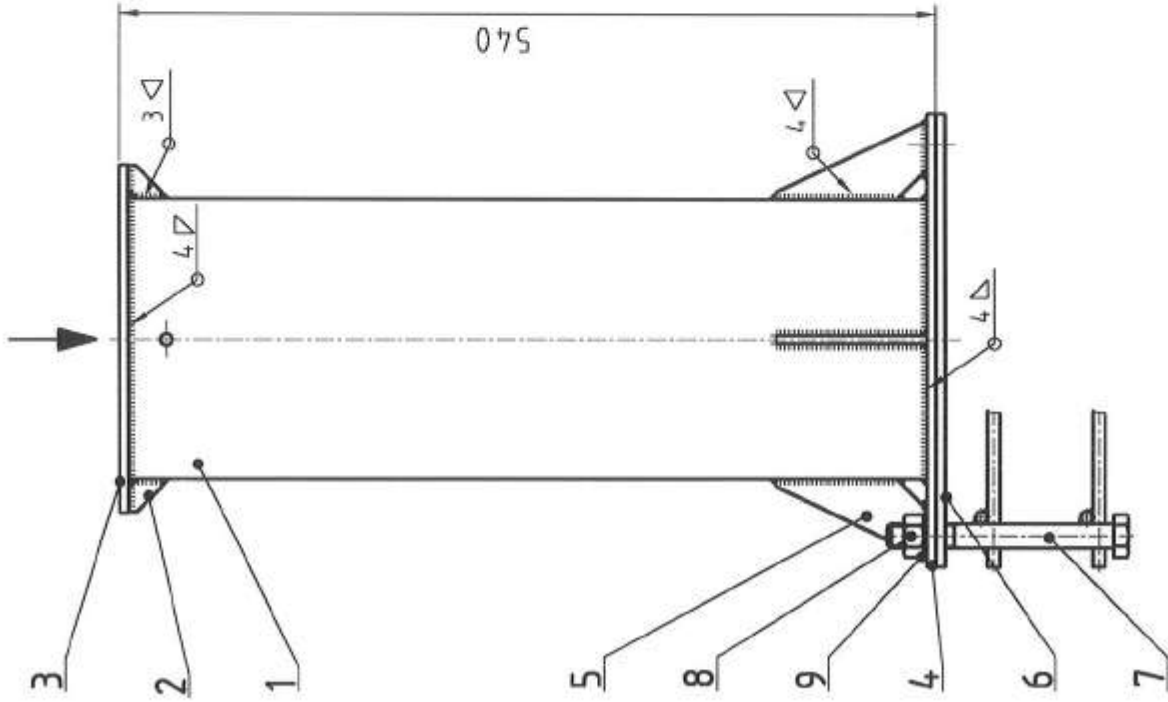
BOTH SHAPES ARE PERMISSIBLE



GENERAL TOLERANCE ± 0.1 UNLESS OTHERWISE STATED

ALL SHARP CORNERS TO BE ROUNDED OFF

Gusset	6 x 22 x 22	E 235	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 20.07.01
	Gusset			Checked by: 02.03.07
			Released by: 07.03.07	
International Handpump Specification				C2052



Used for Casing pipes up to Ø6"



Pos.	Qty.	Description	Drawing No.	Remarks
9	4	Washer	C1069	M16
8	4	Hex.nut	C1130	M16
7	1	Anchor assy.	B2083	---
6	1	Gasket	C2059	---
5	4	Gusset	C2058	---
4	1	Bottom flange	C2068	---
3	1	Flange	C2053	---
2	2	Gusset	C2052	---
1	1	Stand pipe	C2056	---

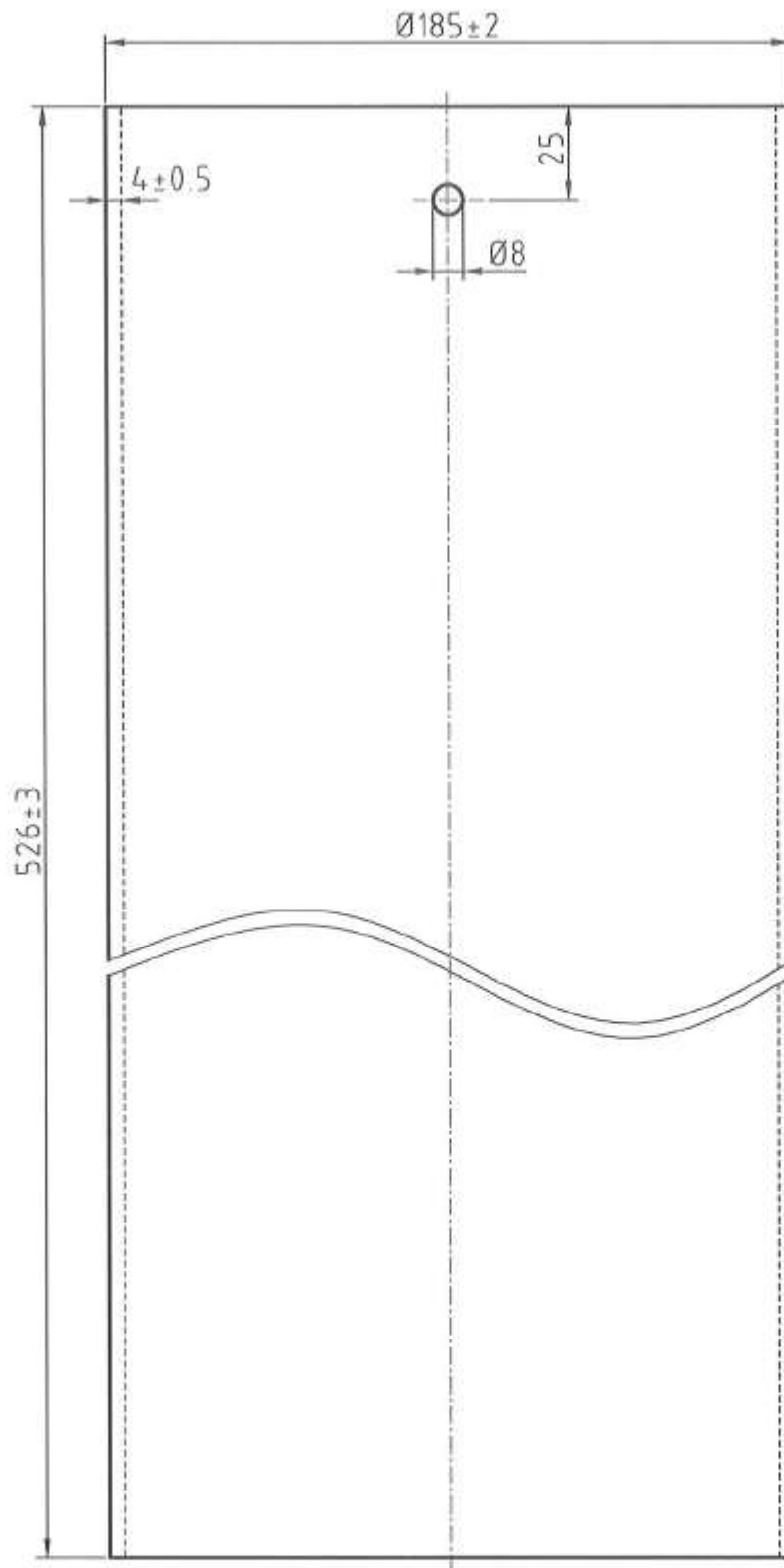
Rural Water Supply Network		Sub assembly		Type B		Scale:		1 : 5		Drawn by: K. Erpf 30.09.03	
RWSN		Stand assembly								Checked by: [Signature] 02.03.07	
										Released by: [Signature] 07.03.07	

GENERAL TOLERANCE +/- 5 UNLESS OTHERWISE STATED HOT DIP GALVANISED TO ISO 14.61 EXCEPT POS 6/7/8/9/10 WELDED TO ISO 9692



International Handpump Specification

B2221



LENGTH PRIOR TO ROLLING = 580mm

NOTE:
 BOTH ENDS TO BE FACED
 SQUARE TO THE OUTER PIPE
 -ROLLED FROM 4mm SHEET
 -WELD NOT GROUND

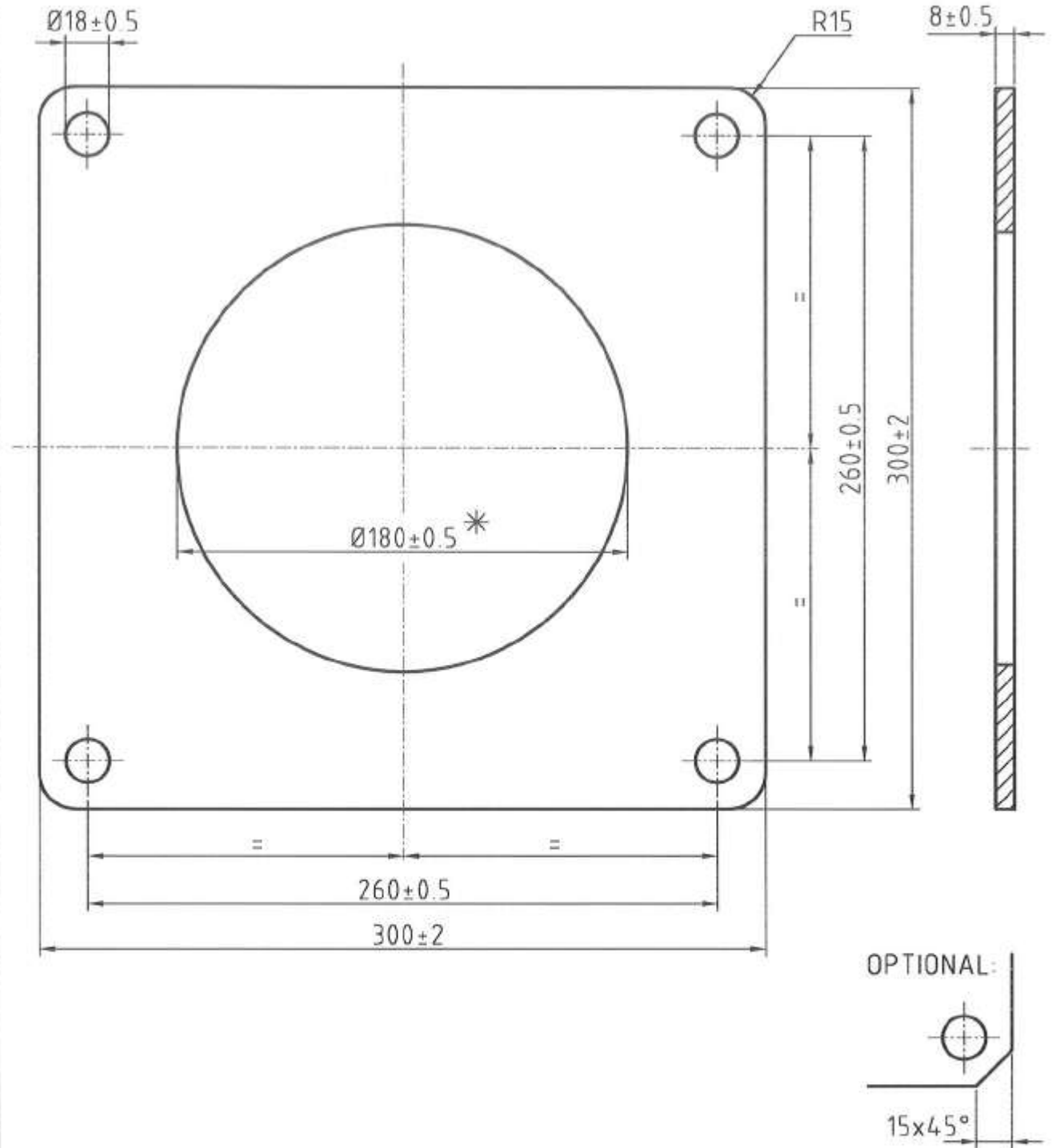
ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 0.2 UNLESS OTHERWISE STATED



Description	Dimensions	Material	Standards	Remarks
Stand pipe	Ø185/4 x 526	E 235	ISO 630	(for 6" casing pipe)
Rural Water Supply Network RWSN		Detail drawing Rolled version		Scale: 1:2
Stand pipe		Drawn by: K.Erpf	13.03.01	Checked by: <i>[Signature]</i> 02.03.07
International Handpump Specification		Released by: <i>[Signature]</i>	07.03.07	C2056

* NOTE:

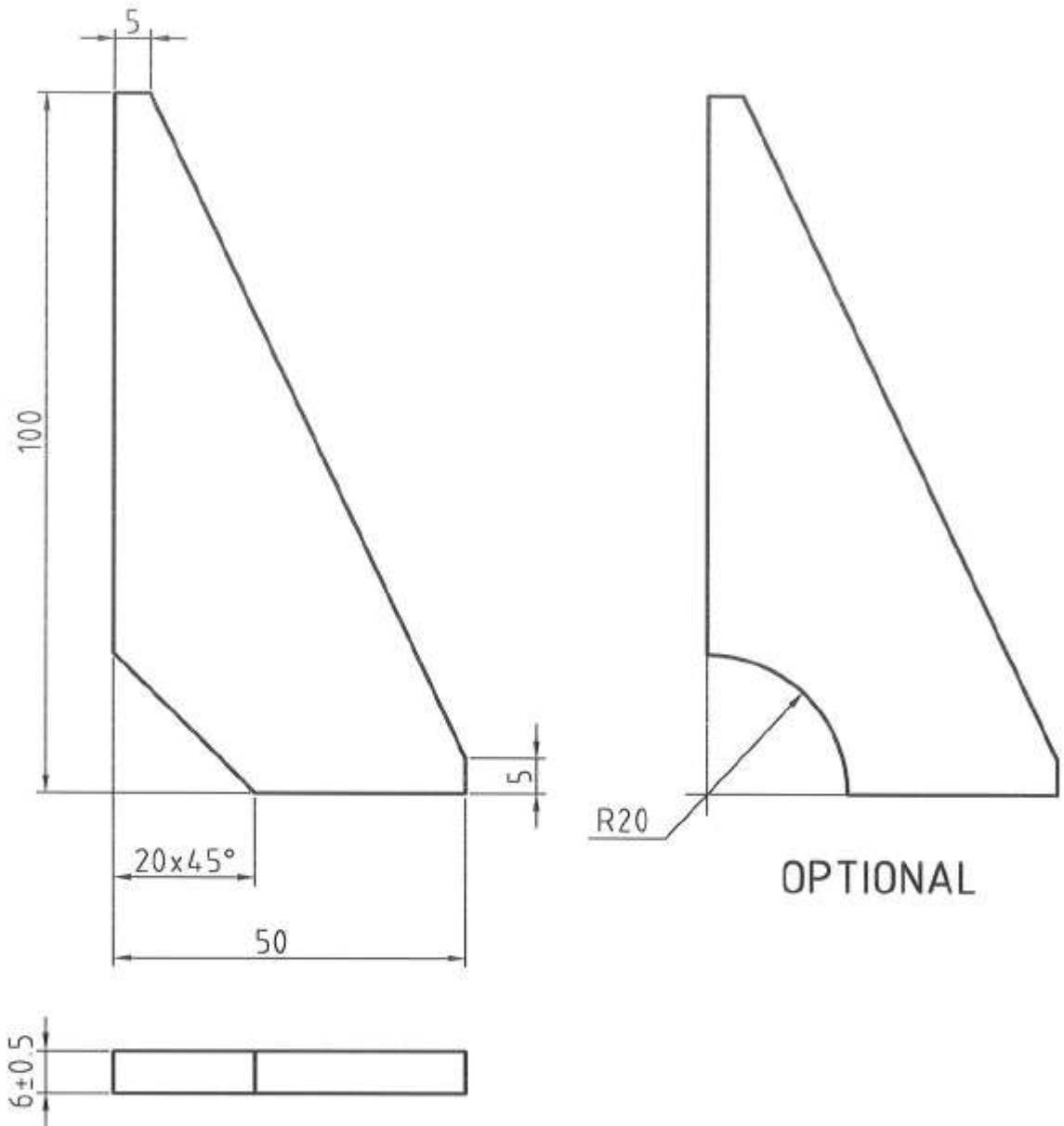
FOR 6" FLANGE PIPE, USE BOTTOM FLANGE C2057



ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED



Bottom flange	8 x 300 x 300	E 235	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing	Scale: 1 : 2.5		Drawn by: K.Erpf 16.05.00
	Bottom flange			Checked by: <i>[Signature]</i> 02.03.07
International Handpump Specification			Released by: <i>[Signature]</i> -07.03.07	C2068



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-2 UNLESS OTHERWISE STATED

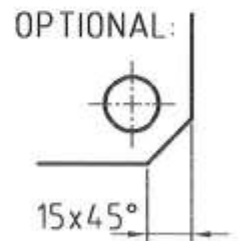
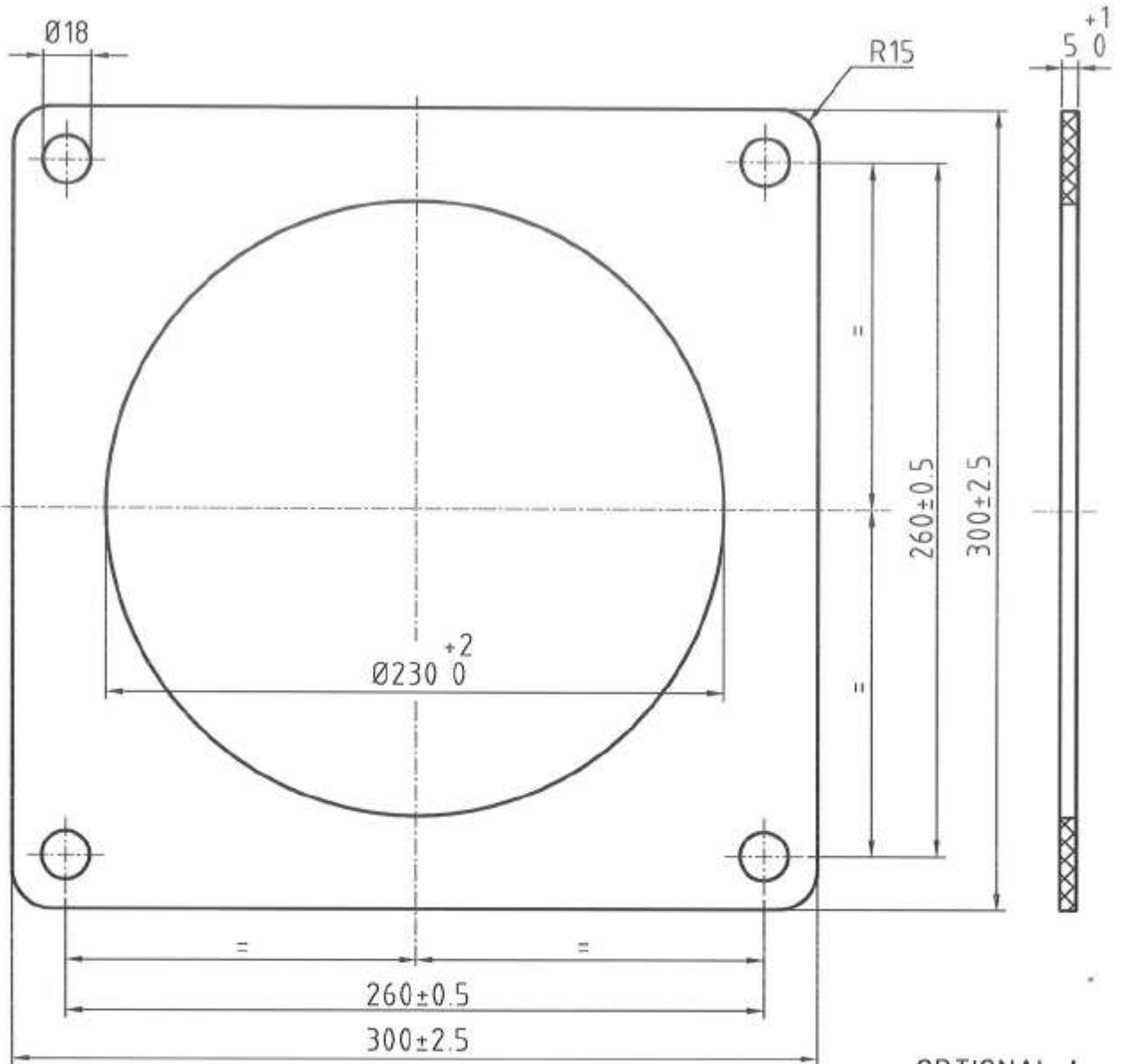


Gusset	6 x 50 x 100	E 235	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: K Erpf 13.03.01
	Gusset			Checked by: 02.03.07
				Released by: 07.03.07
International Handpump Specification				C2058

OPTION:

Revision 5-2007

TO BE CUT OF A 5 MM RUBBER SHEET OF ANY COMPOUND TYPE

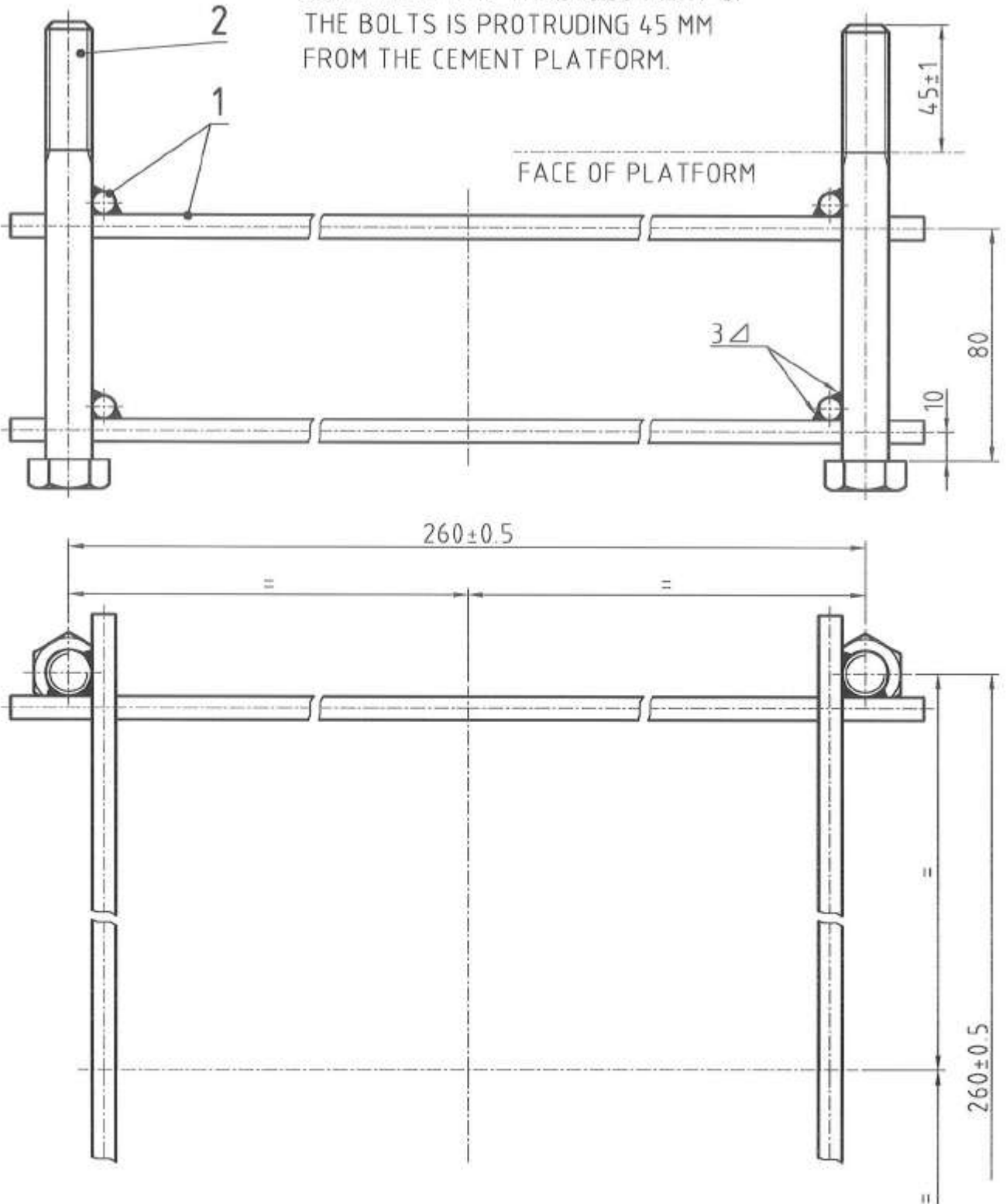


GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED



Gasket	5 x 300 x 300	Nitrile/nat. Rubber	ISO 3302-1 (M3)	60-70 Shore A
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Gasket		Scale: 1 : 2.5	Drawn by: K.Erpf 13.03.01 Checked by: <i>[Signature]</i> 02.03.07 Released by: <i>[Signature]</i> 07.03.07
International Handpump Specification				C2059

NOTE: PLACE THE ANCHOR ASSEMBLY AS SUCH THAT THE THREADED PART OF THE BOLTS IS PROTRUDING 45 MM FROM THE CEMENT PLATFORM.

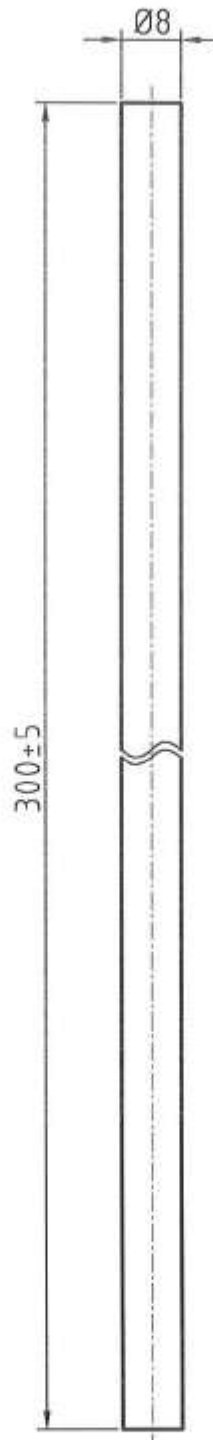


WELDED TO ISO 9692
GENERAL TOLERANCE +/- 0.5 UNLESS OTHERWISE STATED



Pos.	Qty.	Description	Drawing. No.	Remarks
2	4	Hex. bolt	C1114	M16 x 150
1	8	Fixing rod	C2084	---

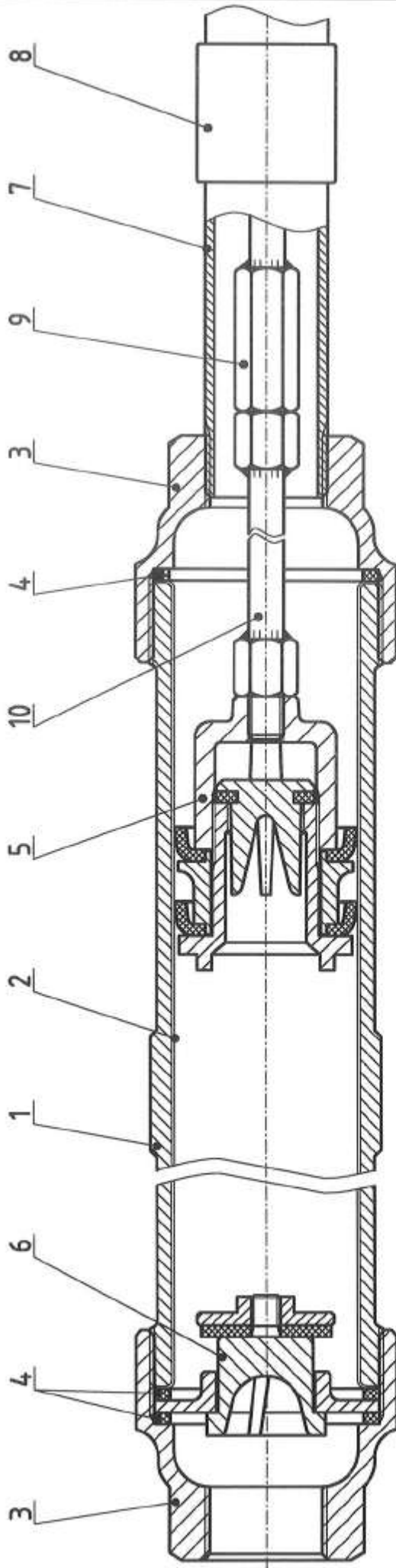
Rural Water Supply Network 	Sub assembly		Scale: 1 : 2	Drawn by: K.Erpf	14.03.01
	Anchor assembly			Checked by:	02.03.07
				Released by:	07.03.07
International Handpump Specification				B2083	



GENERAL TOLERANCE +/- 1 UNLESS OTHERWISE STATED



Fixing rod	Ø8 x 300	E 185	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Fixing rod		Scale: 1 : 1	Drawn by: K.Erpf 14.03.01 Checked by: <i>[Signature]</i> 02.03.07 Released by: <i>[Signature]</i> 07.03.07
International Handpump Specification				C2084



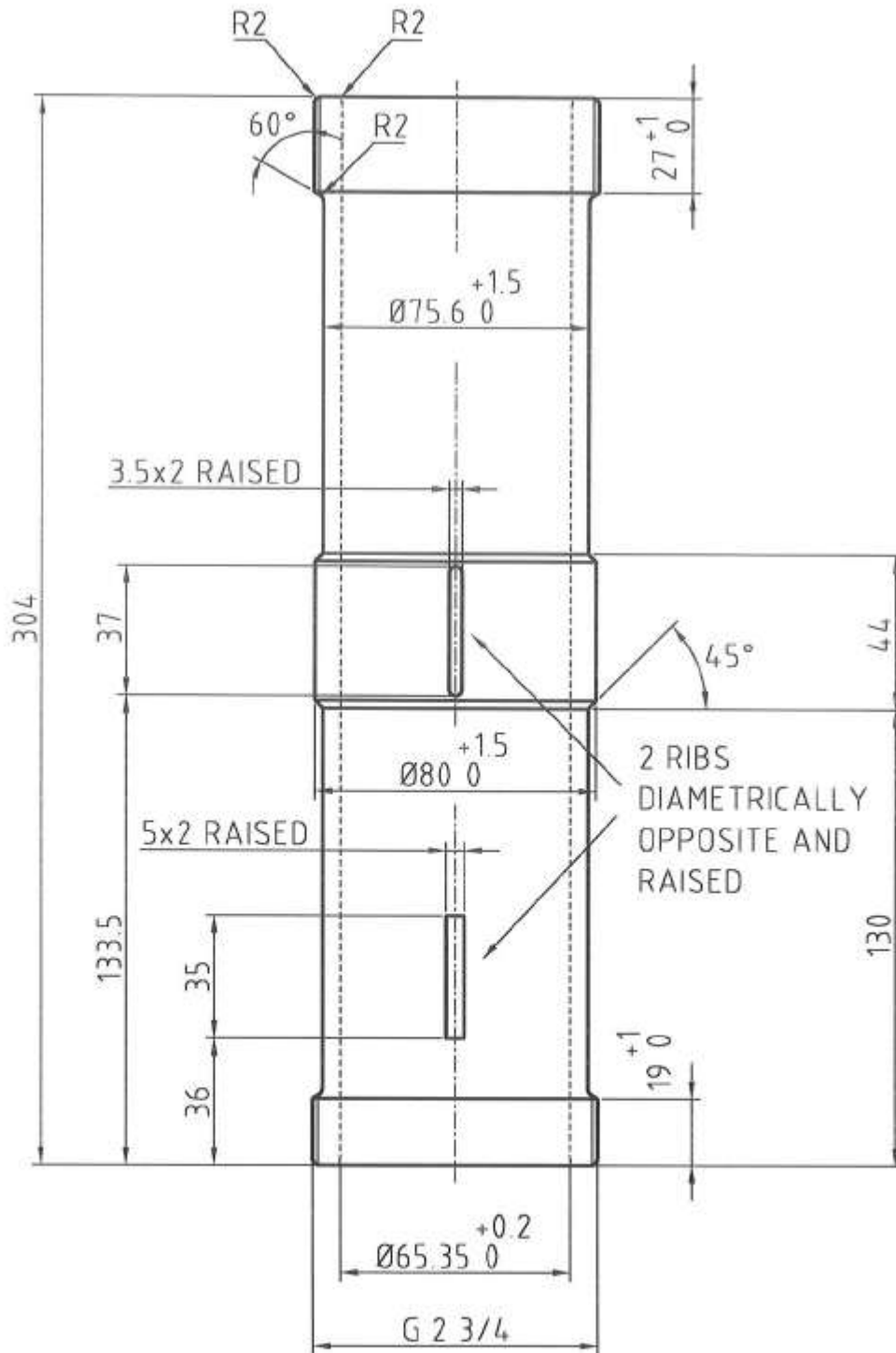
(A)

10	1	Plunger rod assy.	B2555	---
9	X	Pumprod assy.	B2373	(or B2383)
8	X	Socket	C2366	---
7	X	Riser pipe	C2365	---
6	1	Check valve assy.	A2423	---
5	1	Plunger assembly	A2349	---
4	3	Sealing ring	C2354	---
3	2	Reducer cap	C2353	---
2	1	Brass liner	C2352	---
1	1	Cylinder	C2351	---

Pos.	Qty.	Description	Drawing No.	Remarks
		Sub assembly	India MK II standard	
		RUSSA Cylinder assembly		

Scale:	1:2
Drawn by:	K.Erpf
Checked by:	[Signature]
Released by:	[Signature]
	29.09.03
	05.07.07
	09.07.07

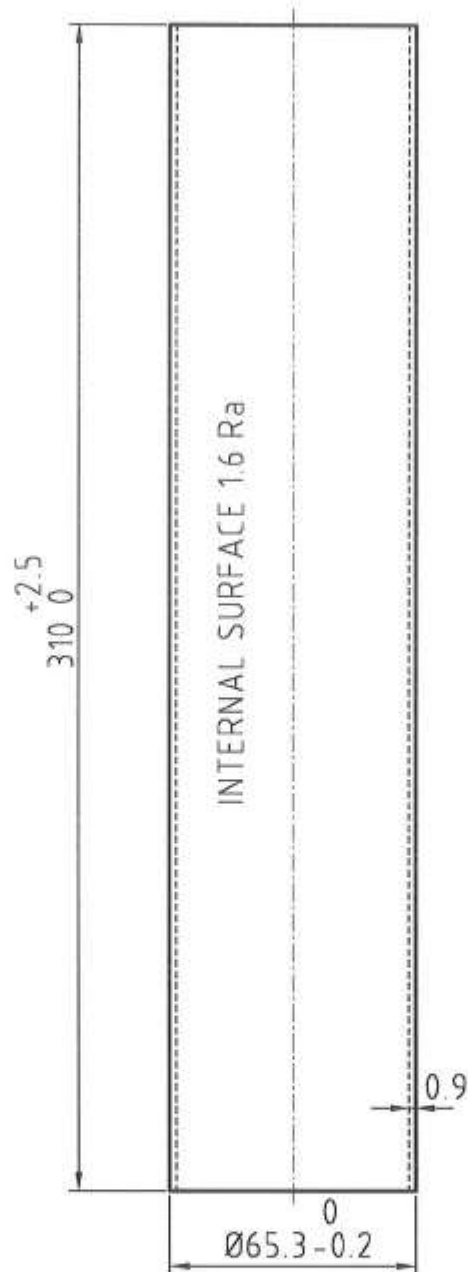
International Handpump Specification  A2350



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES +/-2 UNLESS OTHERWISE STATED

(A) (C)

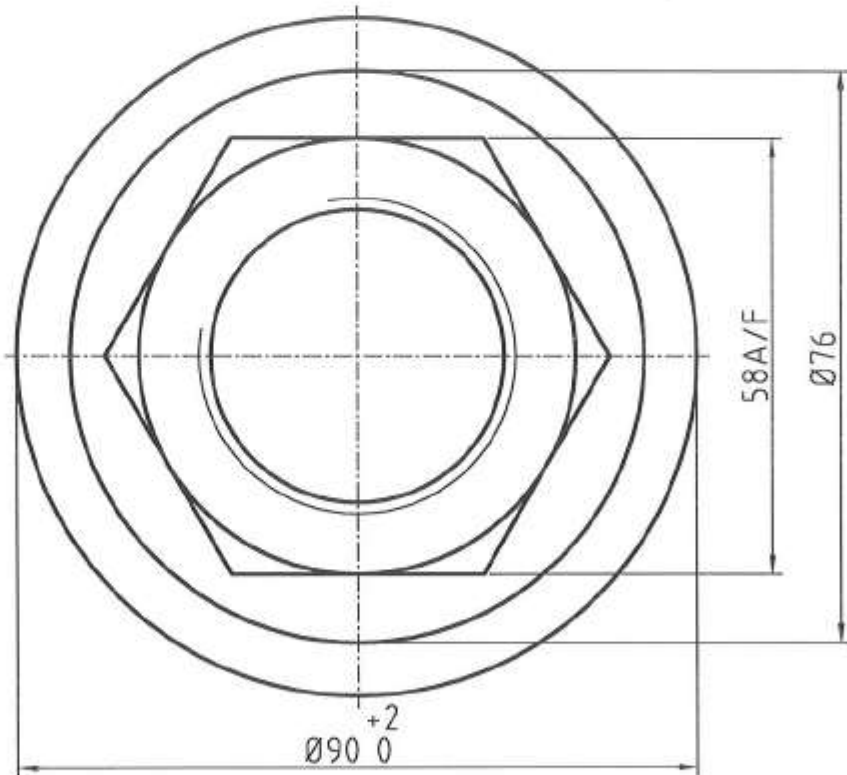
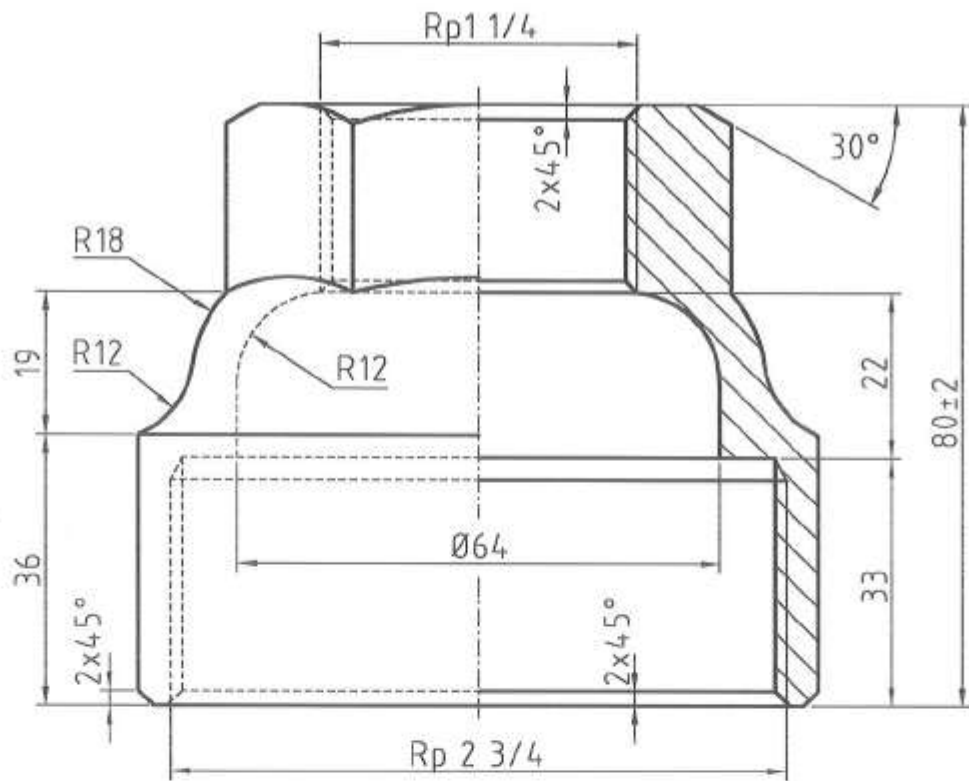
Cylinder	Ø82 x 304	GG20	ISO 185	cast, machined
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale:	Drawn by: t.leder 15.03.97
	Cylinder		1:2	Checked by: [Signature] 05.07.07
				Released by: [Signature] 09.07.07
International Handpump Specification				C2351



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES +/-0.2 UNLESS OTHERWISE STATED

(A) (C)

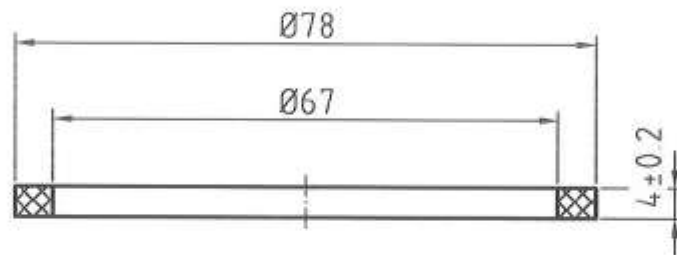
Brass liner	Ø65.3/0.9 x 310	Coper-zinc alloy	ISO 426-1	CuZn37
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 2	Drawn by: I.leder 15.03.97
	Brass liner			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2352



ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCES ± 0.1 UNLESS OTHERWISE STATED

(A) (C)

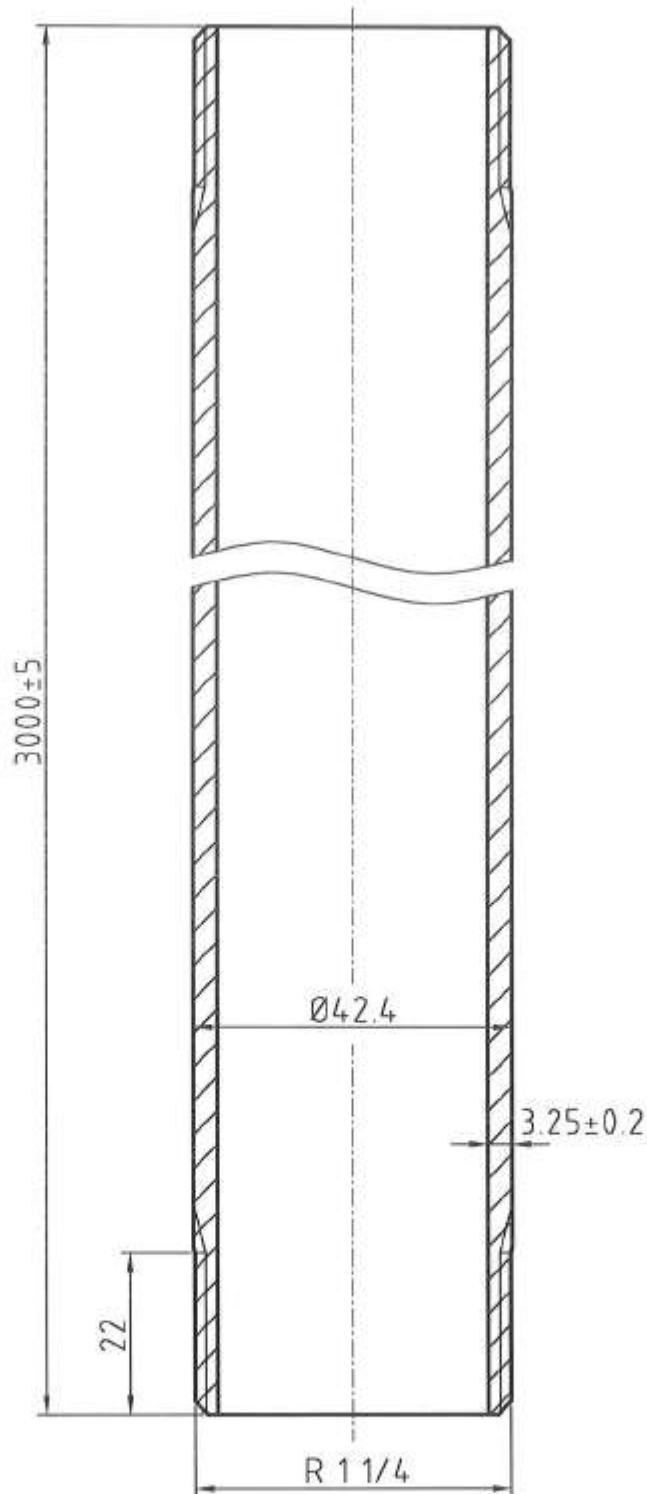
Reducer cap	$\text{Ø}90 \times 80$	GG20	ISO 185	cast, machined
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Reducer cap	Scale: 1 : 1		Drawn by: t.leder. 15.03.97 Checked by: [Signature] 05.07.07 Released by: [Signature] 09.07.07
International Handpump Specification				C2353



GENERAL TOLERANCES +/-0.5 UNLESS OTHERWISE STATED

(A) (B) (C)

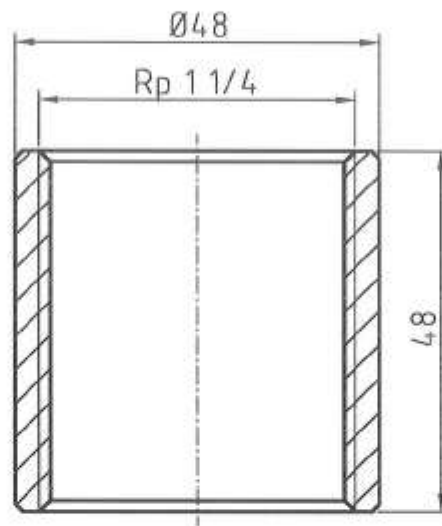
Sealing ring	Ø78/67 x 4	Nitrile rubber	ISO 3302-1 (M2)	70-80 Shore A
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: t leder 15.03.97
	Sealing ring			Checked by: 05.07.07
				Released by: 09.07.07
International Handpump Specification				C2354



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES ± 0.5 UNLESS OTHERWISE STATED





(A) (C)

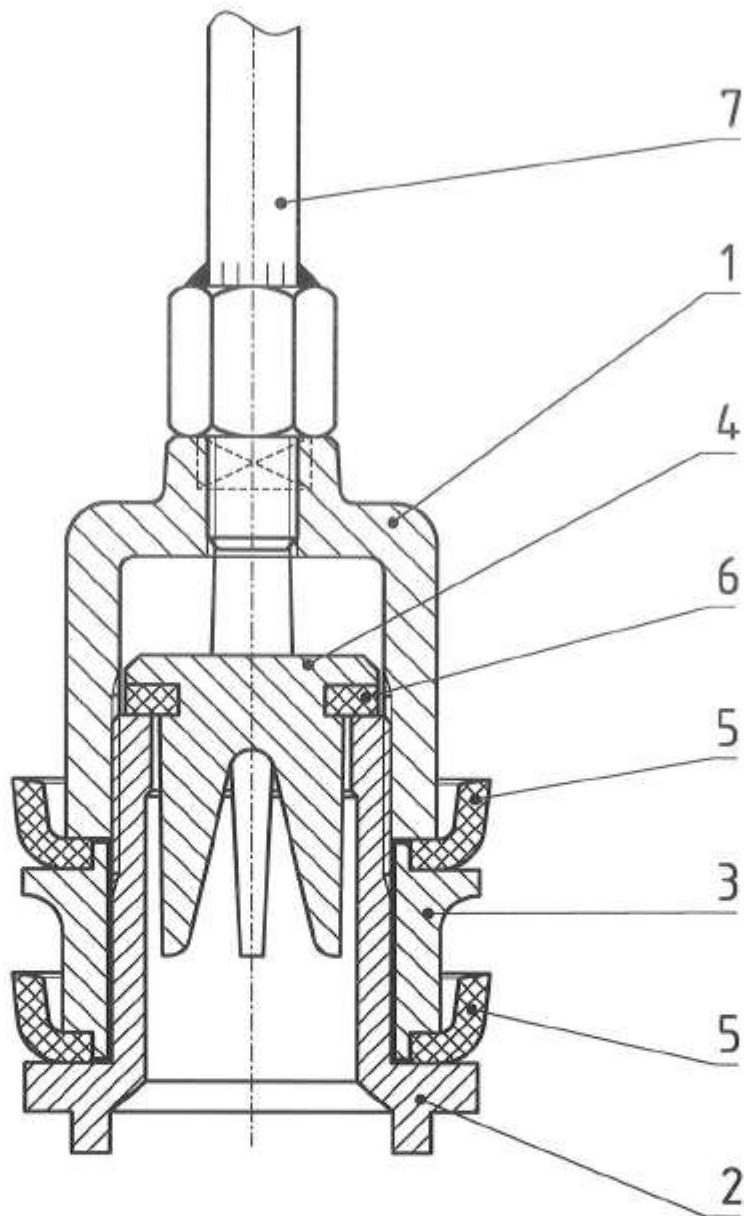
Riser pipe	$\text{Ø}42.4/3.25 \times 3000$	ST 320	NB32 (1 1/4"), medium	GI pipe, galvanized
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Riser pipe	Scale:	Drawn by:	K.Erpf 29.09.03
		1 : 1	Checked by:	<i>[Signature]</i> 05.07.07
International Handpump Specification			Released by:	<i>[Signature]</i> 09.07.07
			C2365	



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES +/-1 UNLESS OTHERWISE STATED

(A) (C)

Socket	Ø48 x 48	ST 320	---	GI pipe, galvanized
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: f.leder. 15.03.97
	Socket			Checked by:  05.07.07
			Released by:  09.07.07	
International Handpump Specification				C2366



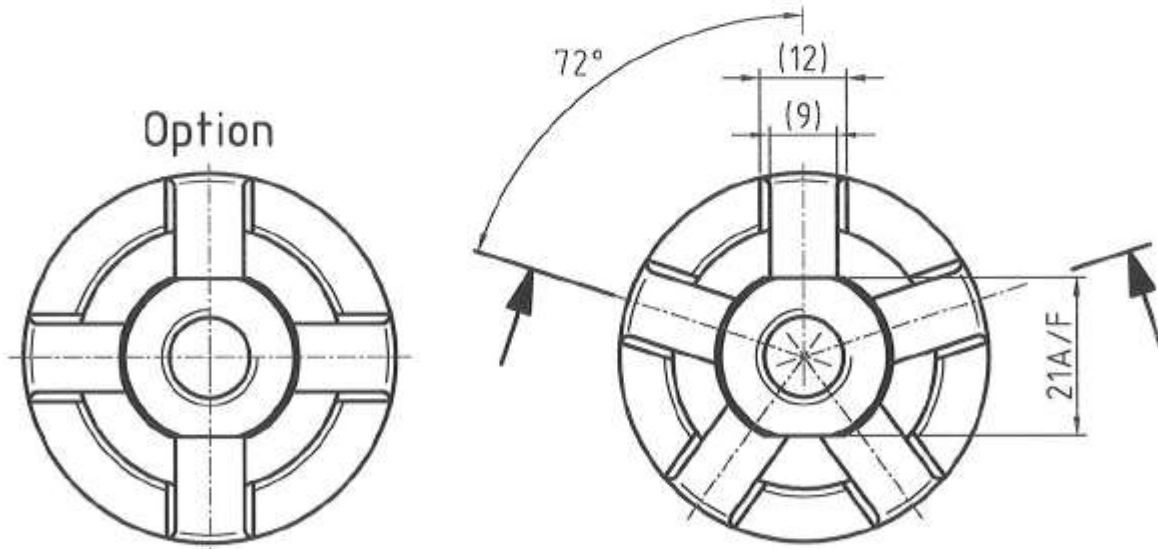
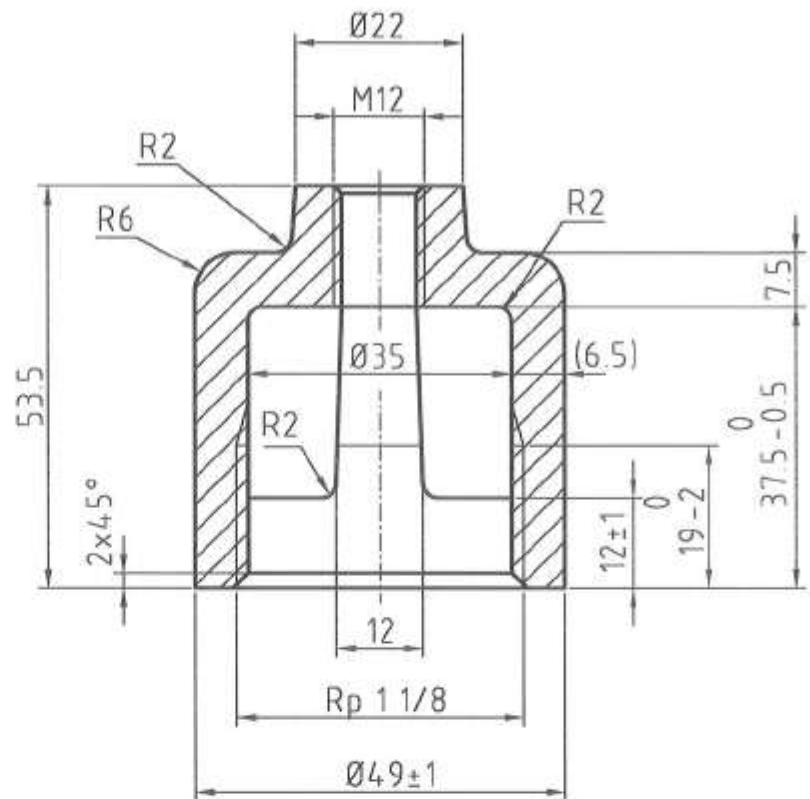
(A)

7	1	Plunger rod assy.	B2555	---
6	1	Rubber seating	C2360	---
5	2	Cup seal	C2359	---
4	1	Upper valve	C2358	---
3	1	Spacer	C2357	---
2	1	Follower	C2356	---
1	1	Plunger body	C2355	---

Pos.	Qty.	Description	Drawing No.	Remarks
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Rural Water Supply Network RWSN	Sub assembly for Rubber Cup-seal		Scale: 1:1	Drawn by: K. Erpf	29.09.03
	Plunger assembly			Checked by: <i>[Signature]</i>	05.07.07
				Released by: <i>[Signature]</i>	09.07.07

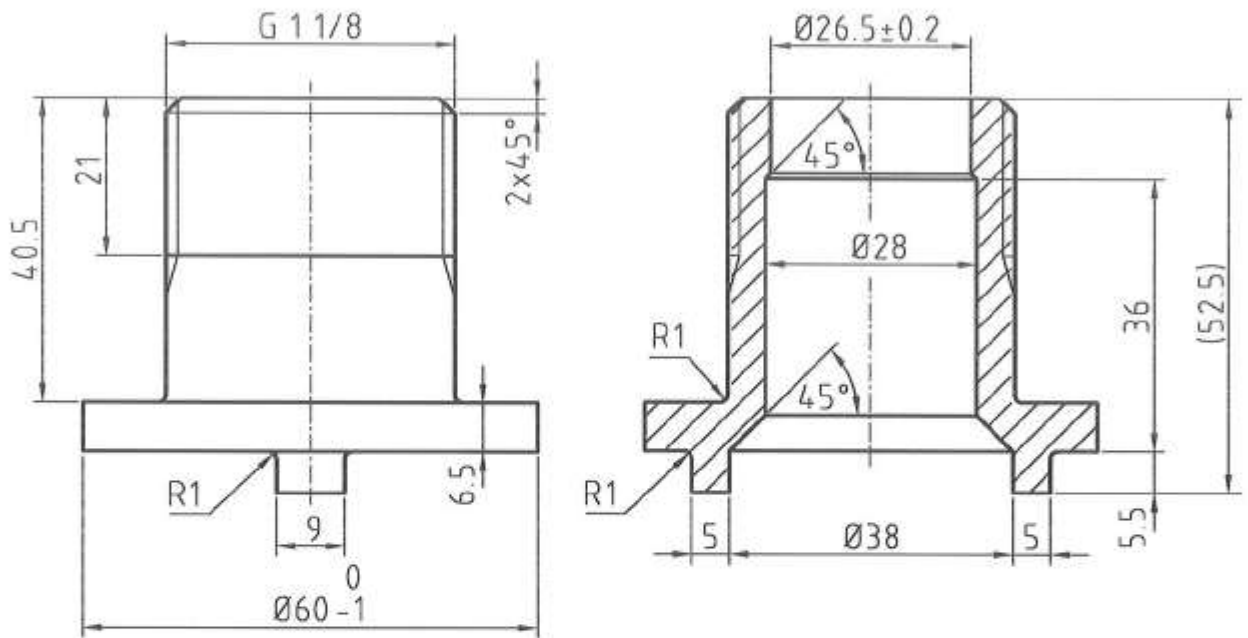
International Handpump Specification		A2349
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ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCES +/-0.5 UNLESS OTHERWISE STATED

(A) (B) (C)

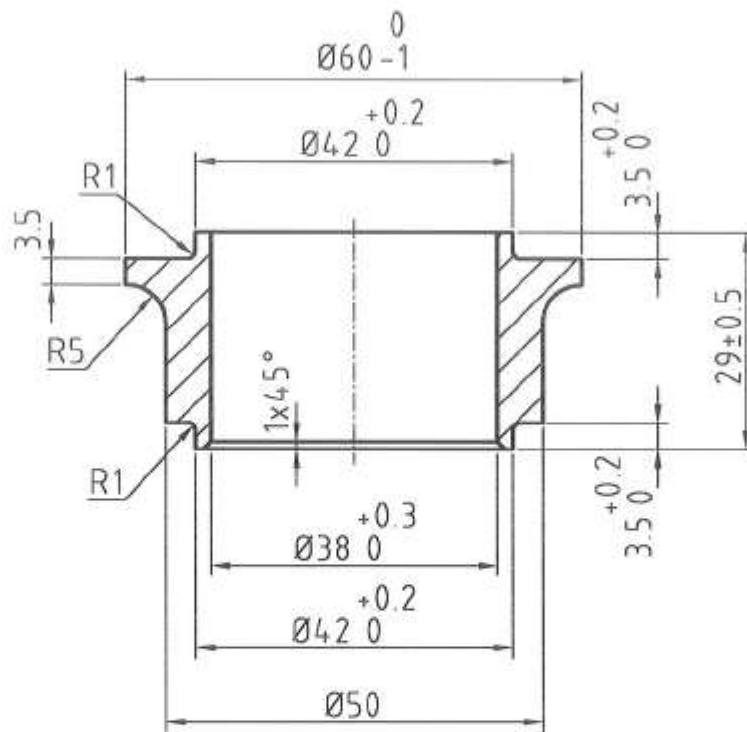
Plunger body	Ø49 x 53.5	Copper-zinc alloy	ISO 426-2	CuZn38Pb4
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Plunger body		Scale: 1 : 1	Drawn by: t.leder. 15.03.97 Checked by: [Signature] 05.07.07 Released by: [Signature] 09.07.07
International Handpump Specification				C2355



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES +/-0.5 UNLESS OTHERWISE STATED

(A)

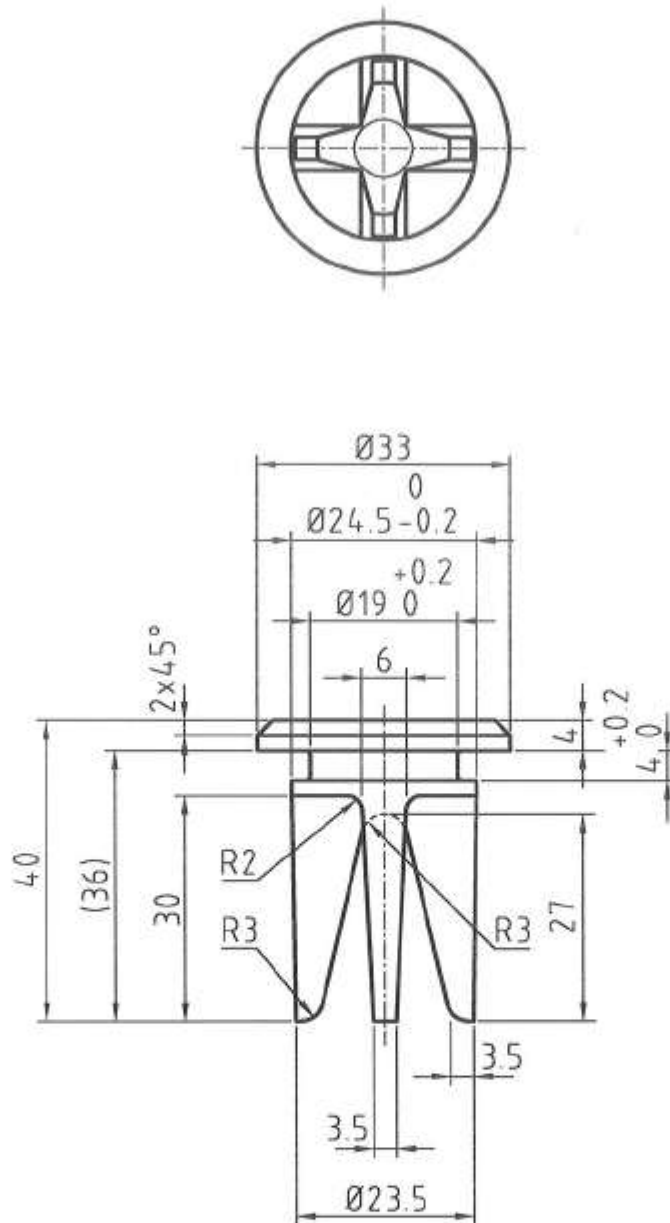
Follower	Ø60 x 52.5	Copper-zinc alloy	ISO 426-2	CuZn38Pb4
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Follower		Scale: 1:1	Drawn by: f.leder 15.03.97 Checked by: [Signature] 05.07.07 Released by: [Signature] 09.07.07
International Handpump Specification				C2356



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES +/-0.5 UNLESS OTHERWISE STATED

(A) (B) (C)

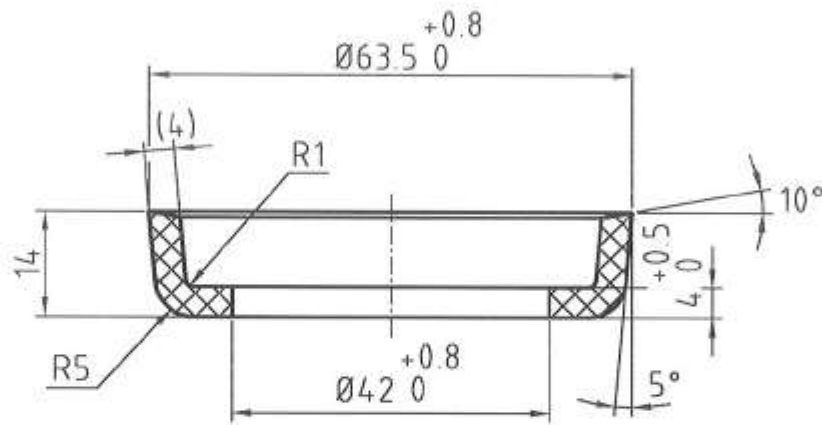
Spacer	Ø60 x 29	Copper-zinc alloy	ISO 426-2	CuZn38Pb4
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: I.leder. 15.03.97
	Spacer			Checked by: <i>[Signature]</i> 05.07.07
			Released by: <i>[Signature]</i> 09.07.07	
International Handpump Specification				C2357



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES +/-0.5 UNLESS OTHERWISE STATED

(A) (B) (C)

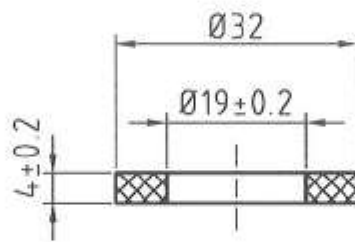
Upper valve	Ø33 x 40	Copper-zinc alloy	ISO 426-2	CuZn38Pb4
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: t.leder. 15.03.97
	Upper valve			Checked by: <i>[Signature]</i> 05.07.07
			Released by: <i>[Signature]</i> 09.07.07	
International Handpump Specification				C2358



GENERAL TOLERANCES +/-0.5 UNLESS OTHERWISE STATED

(A) (B) (C)

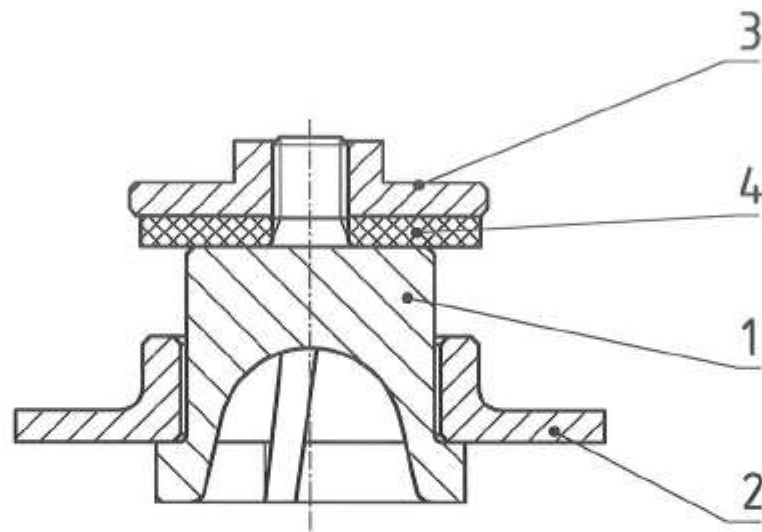
Cup seal	Ø63.5 x 14	Nitrile rubber	ISO 3302-1 (M2)	75-85 Shore A
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale:	Drawn by: t.leder 15.03.97
	Cup seal		1 : 1	Checked by:  05.07.07
				Released by:  09.07.07
International Handpump Specification				C2359



GENERAL TOLERANCES +/-0.5 UNLESS OTHERWISE STATED

(A) (B) (C)

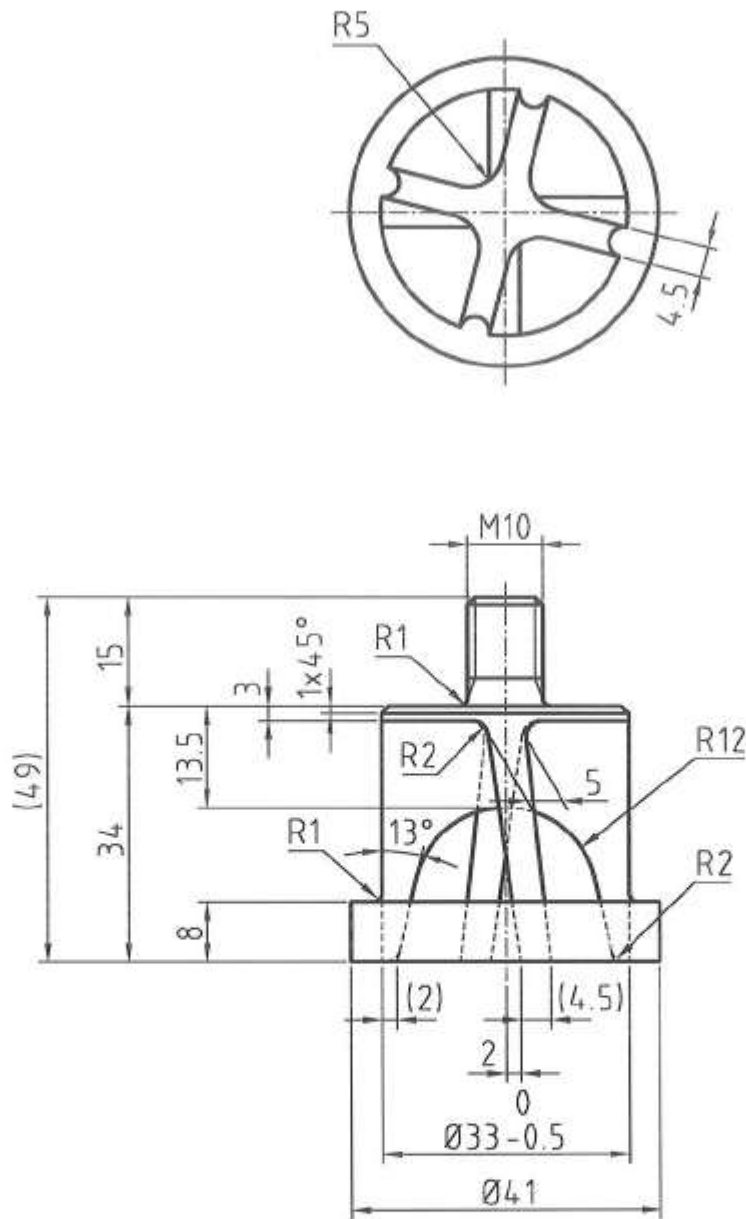
Rubber seating	Ø32/19 x 4	Nitrile rubber	ISO 3302-1 (M2)	70-80 Shore A
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: t.leder. 15.03.97
	Rubber seating			Checked by:  05.07.07
International Handpump Specification			Released by:  09.07.07	
		International Handpump Specification		



(A) (C)

4	1	Rubber seating	C2364	---
3	1	Seat retainer	C2363	---
2	1	Check valve seat	C2362	---
1	1	Check valve	C2361	---

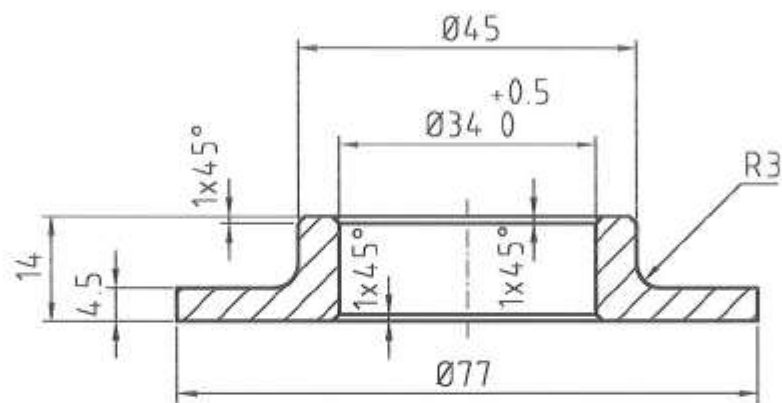
Pos.	Qty.	Description	Drawing. No.	Remarks
Rural Water Supply Network		Sub assembly		Scale: 1 : 1
RWSN		Check valve assembly		
		Drawn by:	K. Erpf	29.09.03
		Checked by:	<i>[Signature]</i>	05.07.07
		Released by:	<i>[Signature]</i>	09.07.07
International Handpump Specification				A2423



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES +/-0.5 UNLESS OTHERWISE STATED

(A) (C)

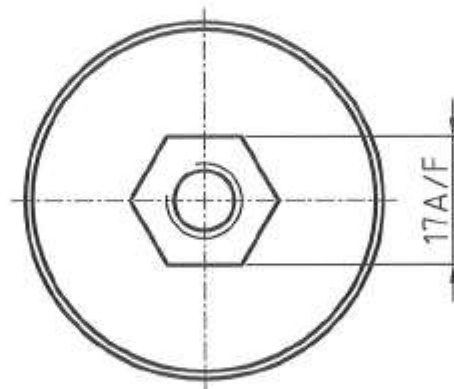
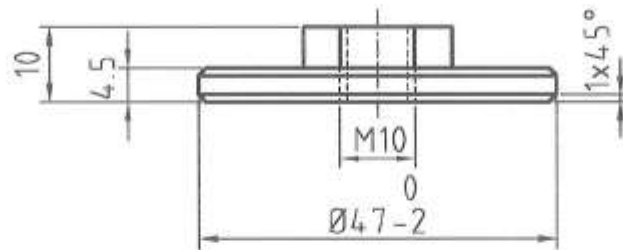
Check valve	$\varnothing 41 \times 49$	Copper-zinc alloy	ISO 426-2	CuZn38Pb4
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Check valve	Scale: 1 : 1	Drawn by: t.leder. 15.03.97 Checked by: [Signature] 05.07.07 Released by: [Signature] 09.07.07	
International Handpump Specification				C2361



ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCES ± 0.5 UNLESS OTHERWISE STATED

(A) (C)

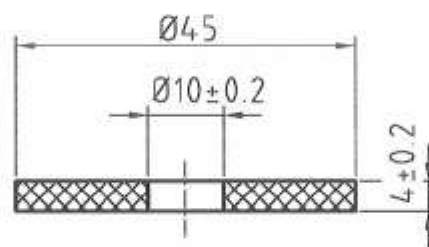
Check valve seat	$\varnothing 77 \times 14$	Copper-zinc alloy	ISO 426-2	CuZn38Pb4
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 03.10.03
	Check valve seat			Checked by: <i>[Signature]</i> 05.07.07
			Released by: <i>[Signature]</i> 09.07.07	
International Handpump Specification				C2362



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES +/-0.5 UNLESS OTHERWISE STATED

(A) (C)

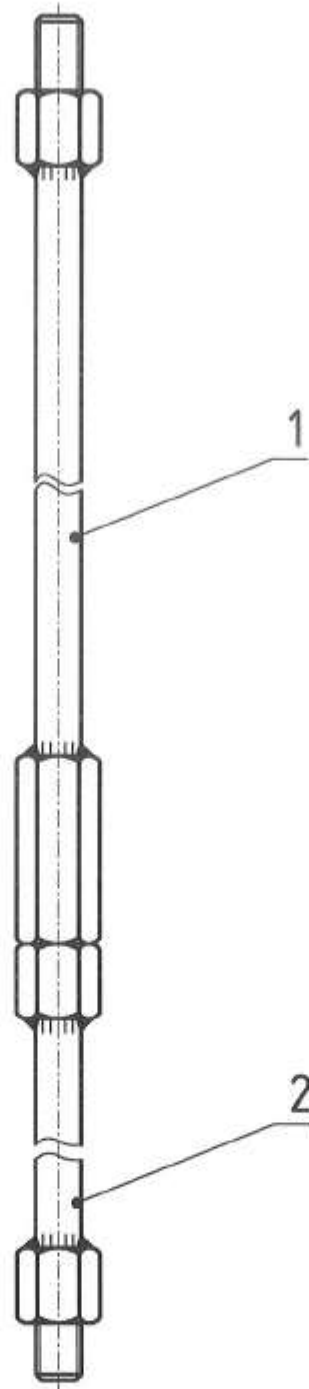
Seat retainer	Ø47 x 10	Copper-zinc alloy	ISO 426-2	CuZn38Pb4
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: t.leder. 15.03.97
	<h1>Seat retainer</h1>			Checked by:  05.07.07
			Released by:  09.07.07	
International Handpump Specification				<h2>C2363</h2>



GENERAL TOLERANCES +/-0.5 UNLESS OTHERWISE STATED

A
C

Rubber seating	Ø45/10 x 4	Nitrile rubber	ISO 3302-1 (M2)	70-80 Shore A
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1:1	Drawn by: t.leder. 15.03.97
	Rubber seating			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2364

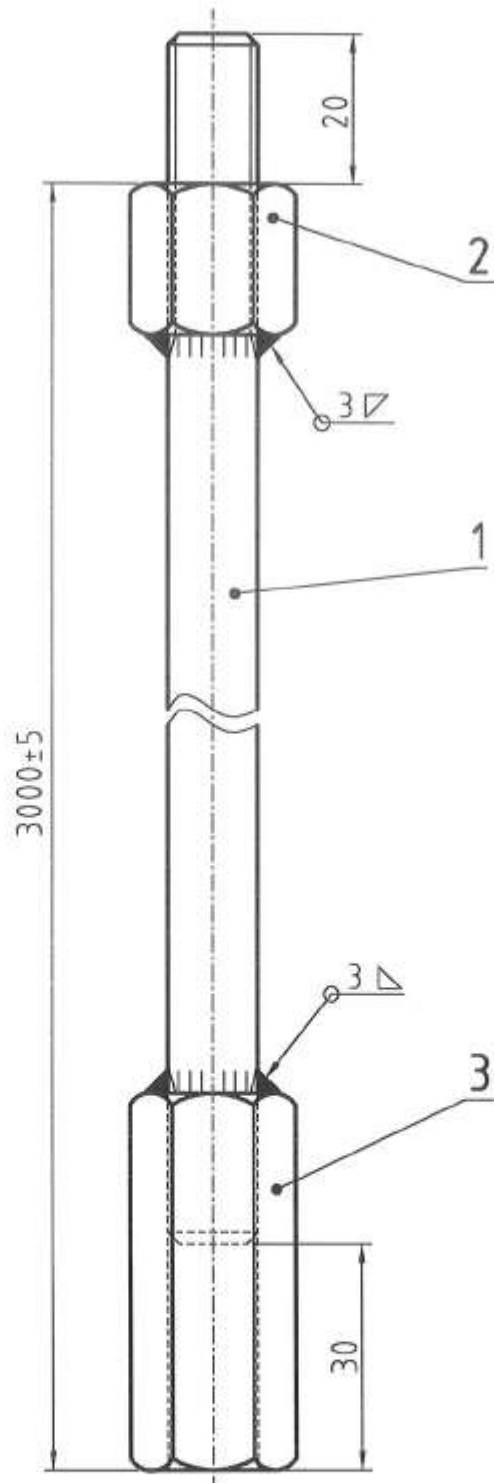


(A) (B) (C)

2	1	Plunger rod assy.	B2555	(Stainless Steel)
1	X	Pumprod assy.	B2373	---
Pos.	Qty.	Description	Drawing. No.	Remarks

Rural Water Supply Network RWSN	Sub assembly		MS	Scale: 1 : 2	Drawn by: K. Erpf	19.11.97
	Pumprod arrangement				Checked by: <i>[Signature]</i>	05.07.07
					Released by: <i>[Signature]</i>	09.07.07

International Handpump Specification		A2370
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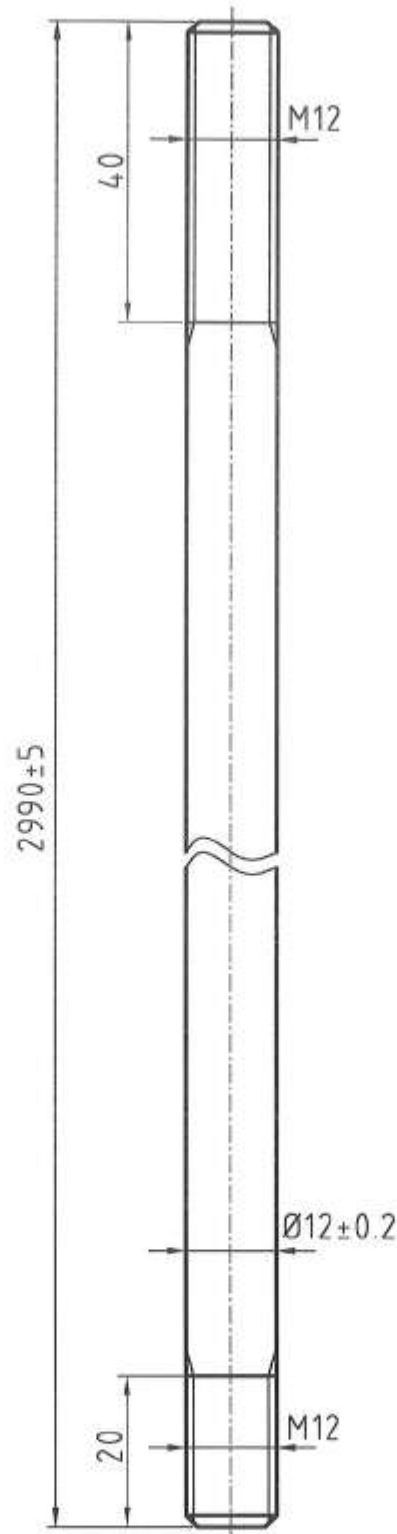
WELDED TO ISO 9692
 HOT DIP GALVANIZED TO ISO 1461
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(A) (B) (C)

3	1	Hex.coupler	C1015	M12x50
2	1	Hex.coupler	C1012	M12x20
1	1	Rod	C2372	---
Pos.	Qty.	Description	Drawing. No.	Remarks

Rural Water Supply Network RWSN	Sub assembly	MS	Scale:	Drawn by: K.Erpf	15.03.97
	Pumprod assembly		1:1	Checked by: <i>[Signature]</i>	05.07.07
				Released by: <i>[Signature]</i>	09.07.07

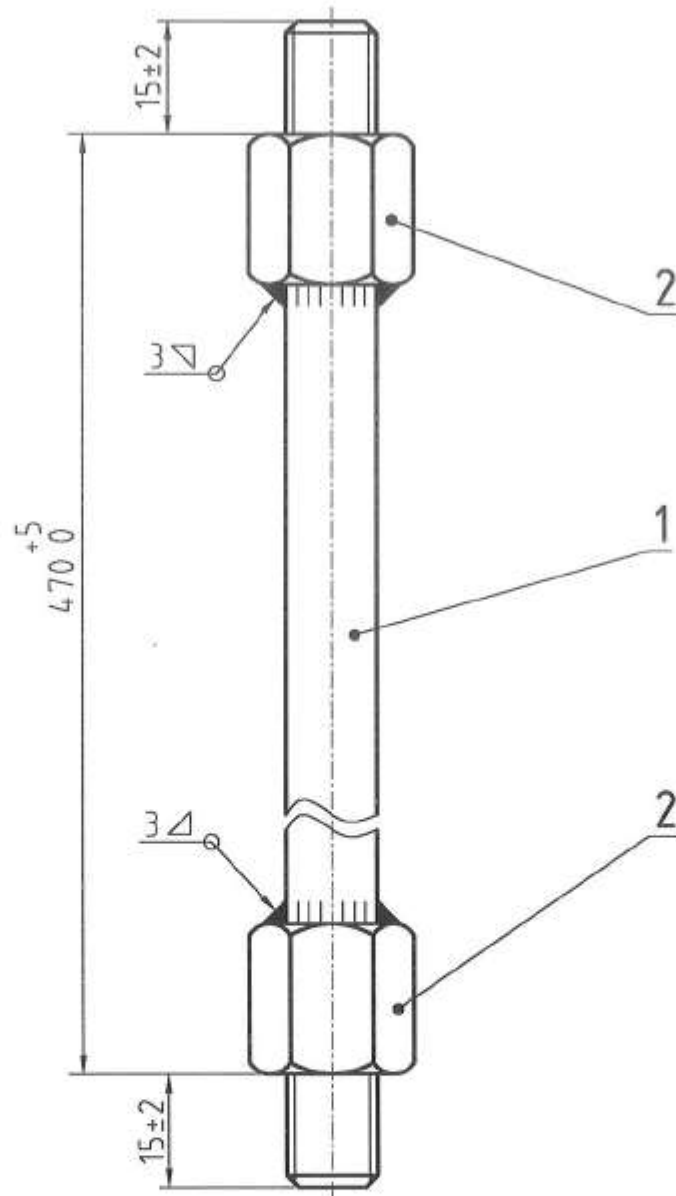
International Handpump Specification		B2373
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GENERAL TOLERANCE ± 0.1 UNLESS OTHERWISE STATED



Rod	$\text{Ø}12 \times 2990$	E 235	ISO 630	bright	
Description	Dimensions	Material	Standards	Remarks	
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf	15.03.97
	Rod			Checked by:	02.03.07
			Released by:	07.03.07	
International Handpump Specification				C2372	



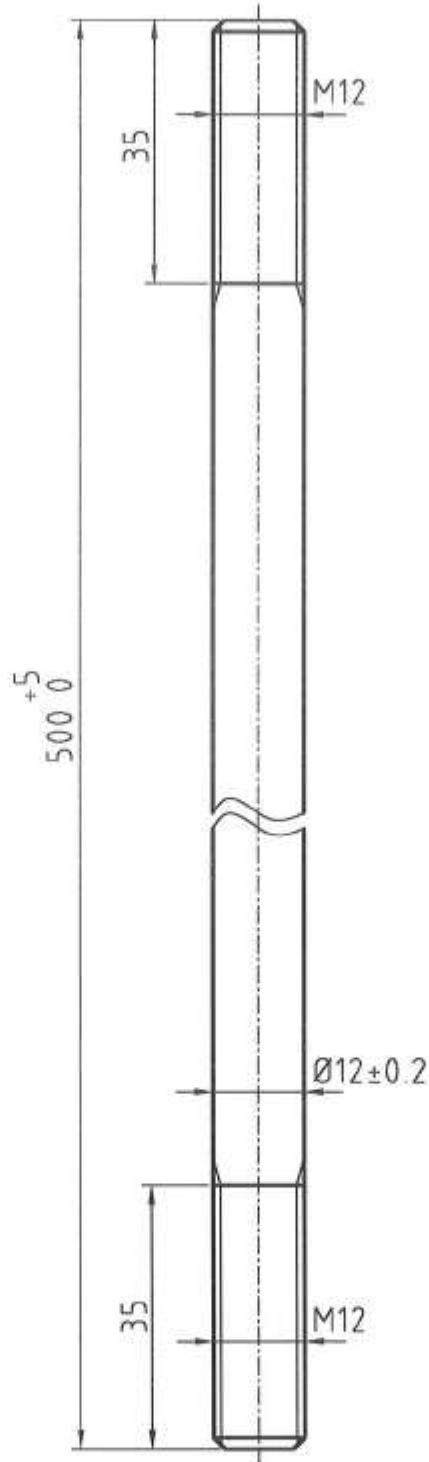
WELDED TO ISO 9692
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(A) (B) (C)

2	2	Hex.coupler	C1053	M12 x 20
1	1	Rod	C2556	---
Pos.	Qty.	Description	Drawing. No.	Remarks

Rural Water Supply Network RWSN	Sub assembly	Stainless Steel	Scale:	Drawn by:	K. Erpf	19.11.97
	Plunger rod assy.			1:1	Checked by:	05.07.07
					Released by:	09.07.07

International Handpump Specification		B2555
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(A) (B) (C)

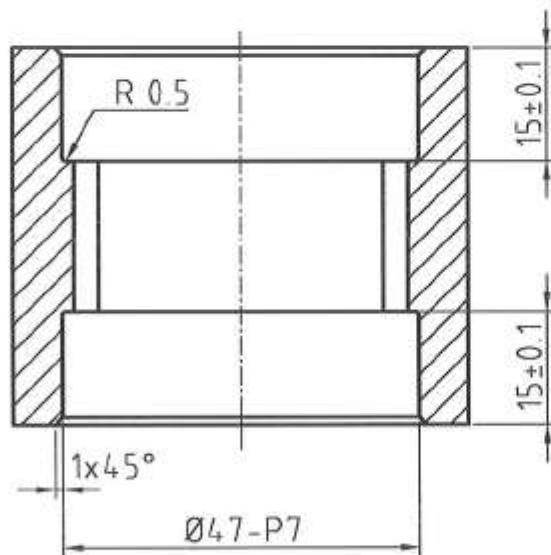
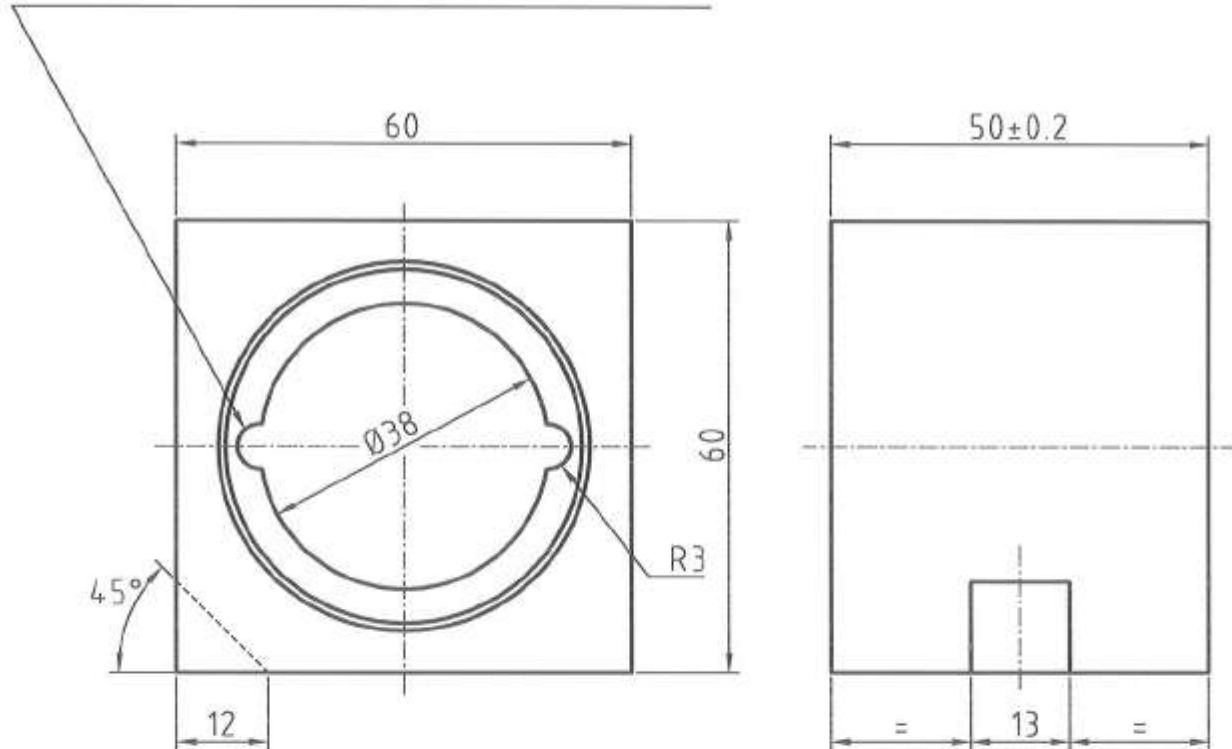
GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

Rod	Ø12 x 500	Stainless Steel	ISO 15510	X5CrNi 18-9, bright
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Rod	Scale: 1 : 1	Drawn by: K. Erpf 15.11.97 Checked by: <i>[Signature]</i> 05.07.07 Released by: <i>[Signature]</i> 09.07.07	
International Handpump Specification				C2556

Options for the

India Mark II Handpump

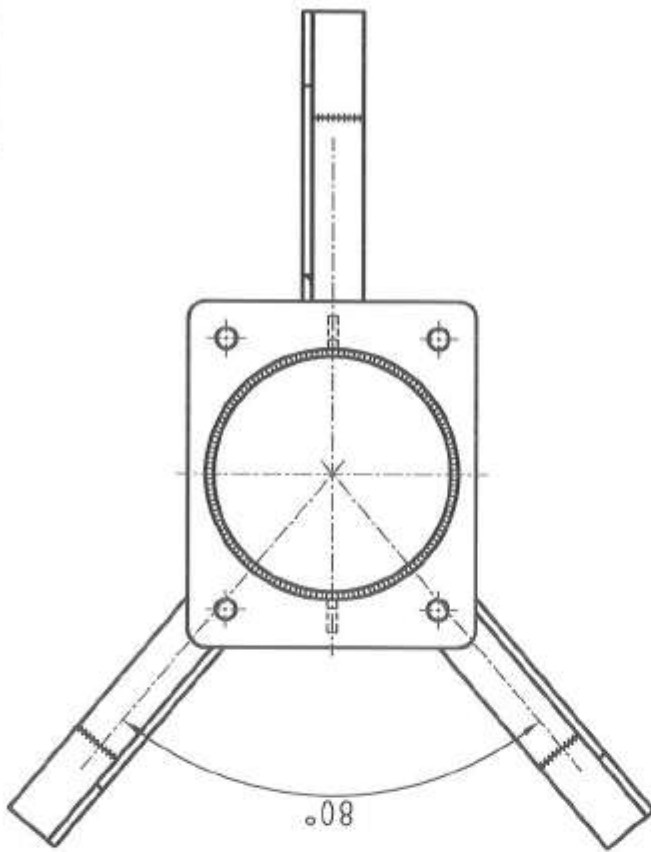
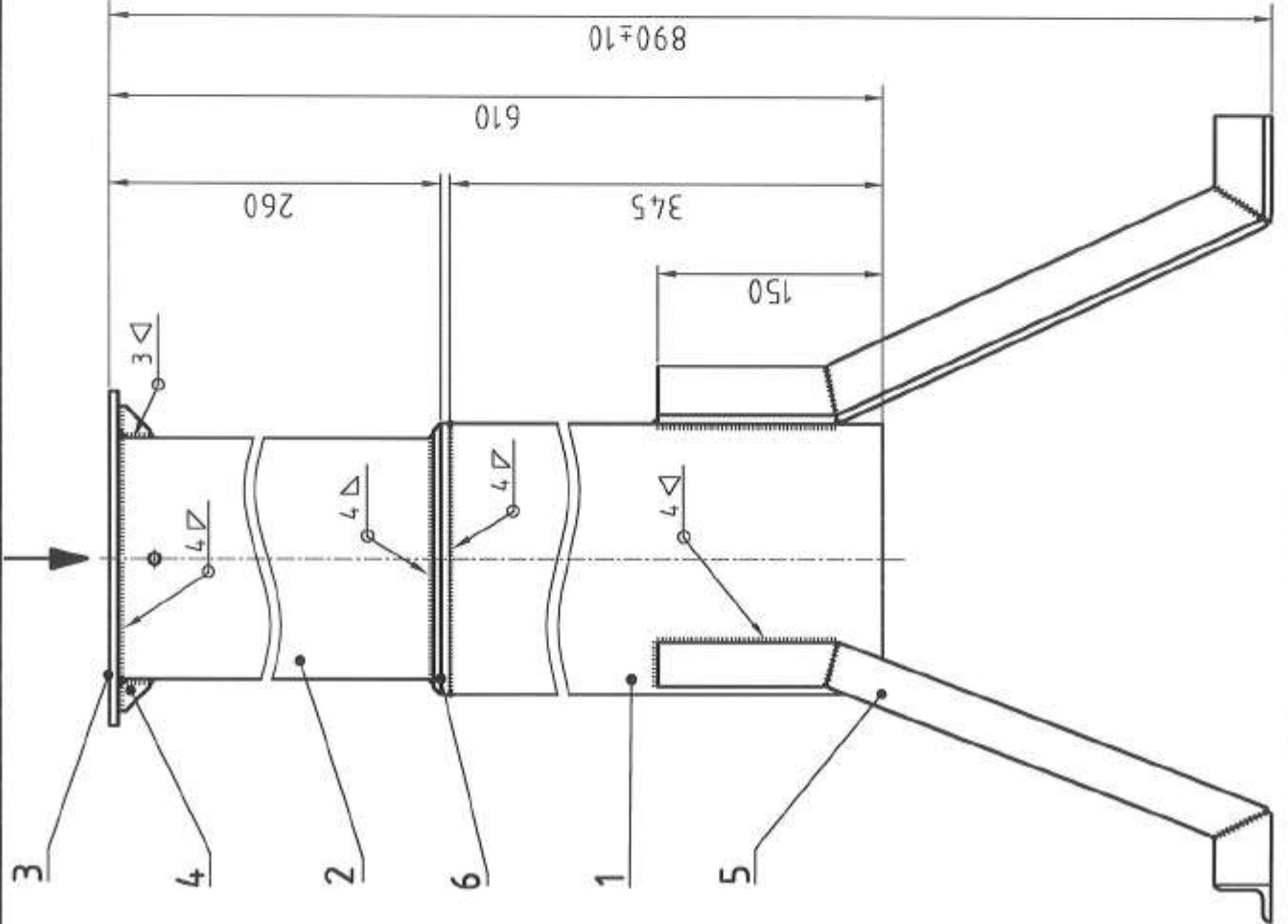
NOTE:
THESE GROOVES ARE USED FOR REMOVAL OF BALL BEARINGS, IF REPLACEMENT IS NEEDED.



ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE ± 0.5 UNLESS OTHERWISE STATED

(A) (B) (C)

Bearing housing	60 x 60 x 50	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing	Option	Scale:	Drawn by: K.Erpf 15.03.00
	Bearing housing		1 : 1	Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2331



Used for Casing pipes Ø6"

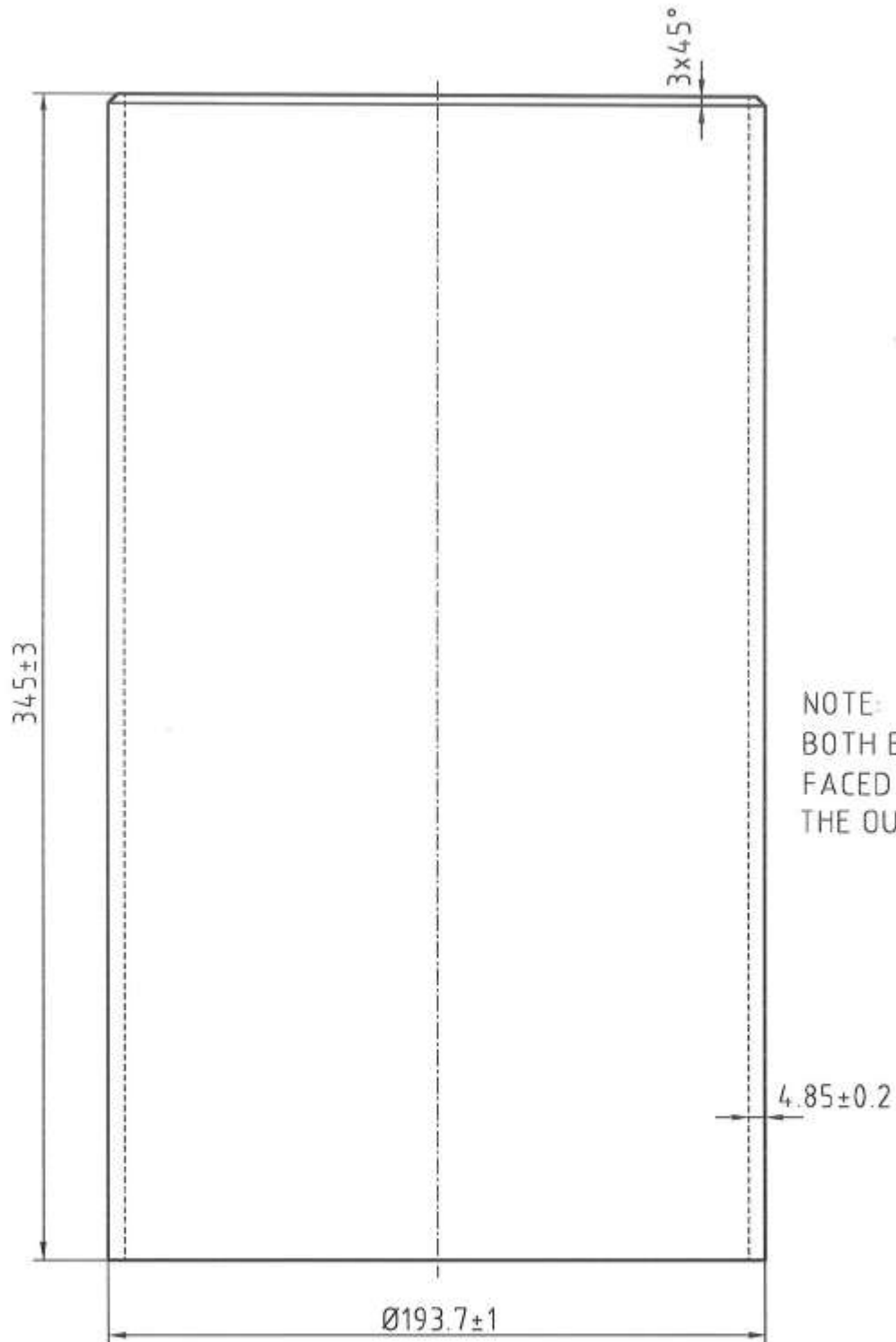
WELDED TO ISO 9692
HOT DIP GALVANISED TO ISO 1461
GENERAL TOLERANCE +/- 5 UNLESS OTHERWISE STATED

(A) (B) (C)

6	1	Reducer NB175/150	C2295	---
5	3	Leg	C2054	---
4	2	Gusset	C2052	---
3	1	Flange	C2053	---
2	1	Stand pipe	C2379	---
1	1	Stand pipe	C2378	---

Pos.	Qty.	Description	Drawing. No.	Remarks
Sub assembly				
Rural Water Supply Network				
RWSN Stand assy. NB175/150				
Scale:				1 : 5
Drawn by:				K.Frpl
Checked by:				95.07.07
Released by:				99.07.07





International Handpump Specification B2347

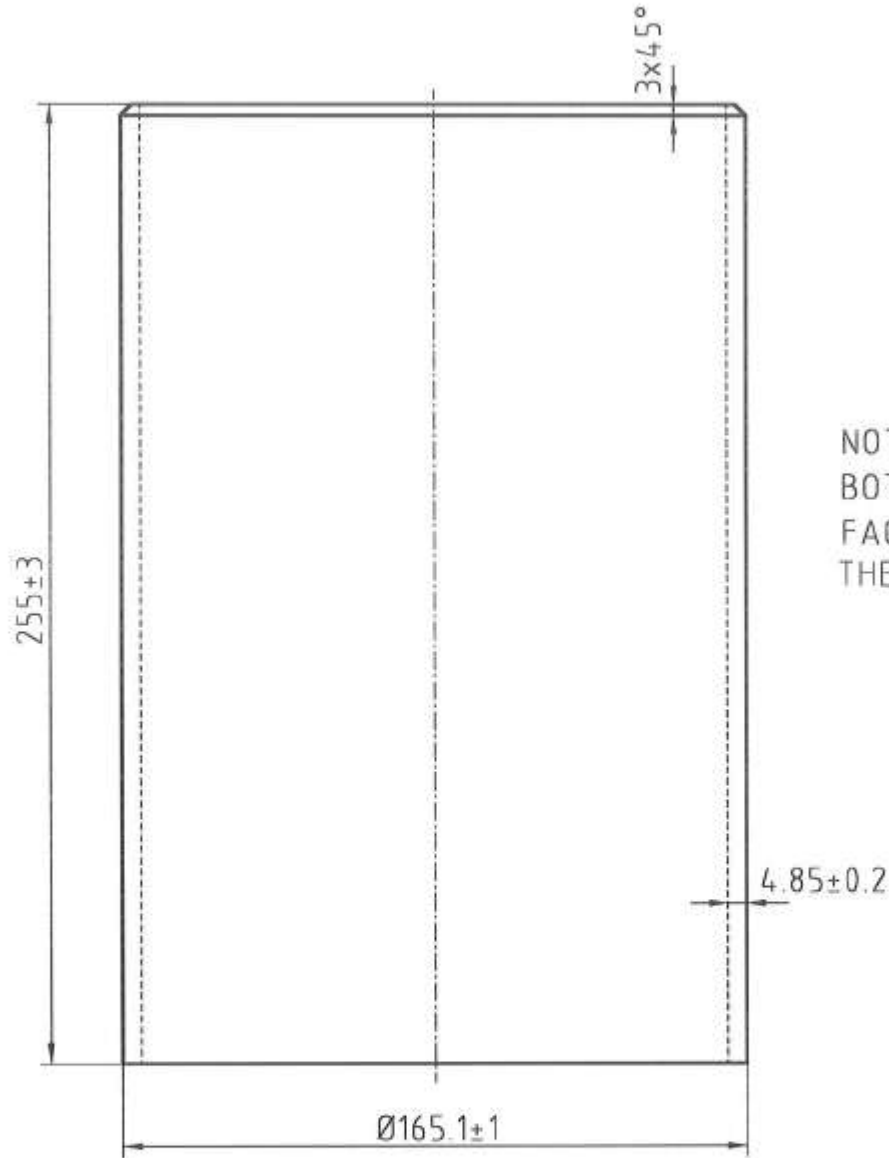


NOTE:
BOTH ENDS TO BE
FACED SQUARE TO
THE OUTER PIPE

ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE ± 0.2 UNLESS OTHERWISE STATED

(A) (B) (C)

Stand pipe	$\text{Ø}193.7/4.85 \times 345$	ST 320	NB175, light	7"
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale:	Drawn by: K.Erpf 15.03.00
	Stand pipe		1 : 2	Checked by:  05.07.07
				Released by:  09.07.07
International Handpump Specification				C2378

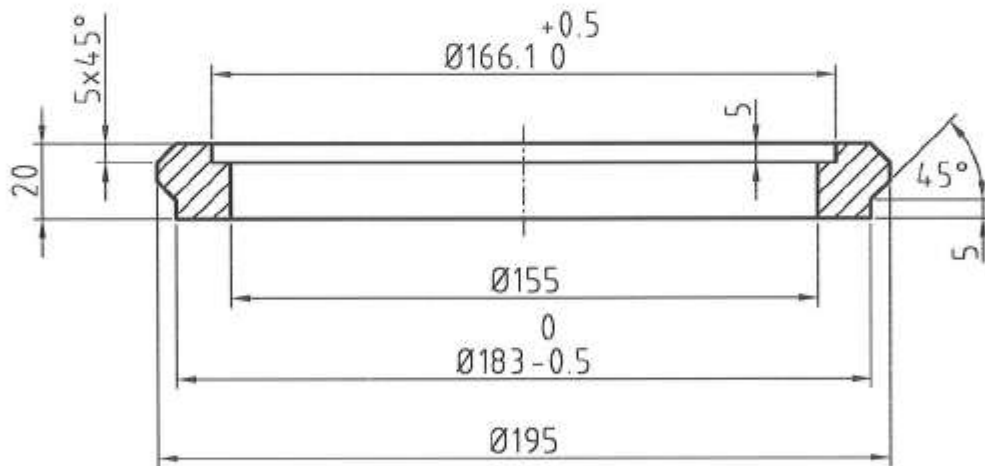
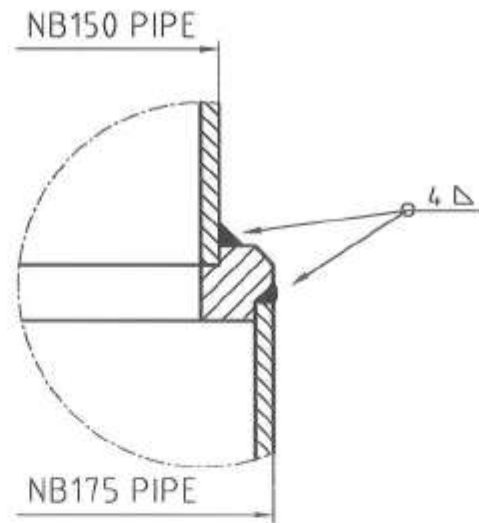


NOTE:
BOTH ENDS TO BE
FACED SQUARE TO
THE OUTER PIPE

ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE ± 0.2 UNLESS OTHERWISE STATED

(A) (B) (C)

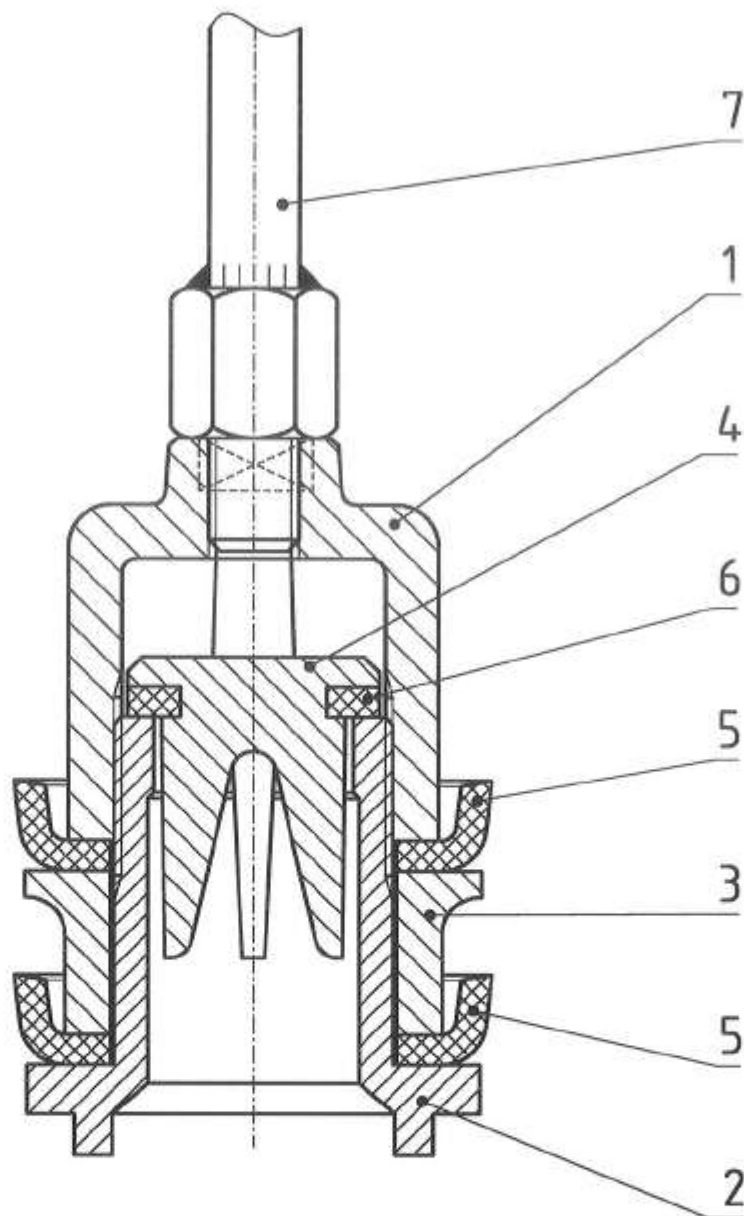
Stand pipe	$\text{Ø}165.1/4.85 \times 255$	ST 320	NB150, medium	6"
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Stand pipe	Scale: 1 : 2		Drawn by: K.Erpf 15.03.00 Checked by: <i>[Signature]</i> 05.07.07 Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2379



ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(A) (B) (C)

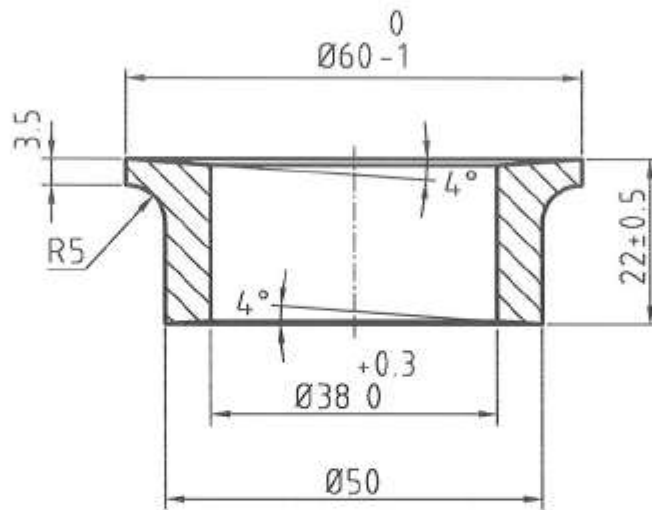
Reducer NB175/150	Ø195 x 20	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing	Option	Scale:	Drawn by: K.Erpf 15.03.00
	Reducer NB175/150		1 : 2	Checked by: [Signature] 05.07.07
				Released by: [Signature] 09.07.07
International Handpump Specification				C2295



A

7	1	Plunger rod assy.	B2555	---
6	1	Rubber seating	C2360	---
5	2	Leather cup seal	C2409	---
4	1	Upper valve	C2358	---
3	1	Spacer	C2408	---
2	1	Follower	C2356	---
1	1	Plunger body	C2355	---

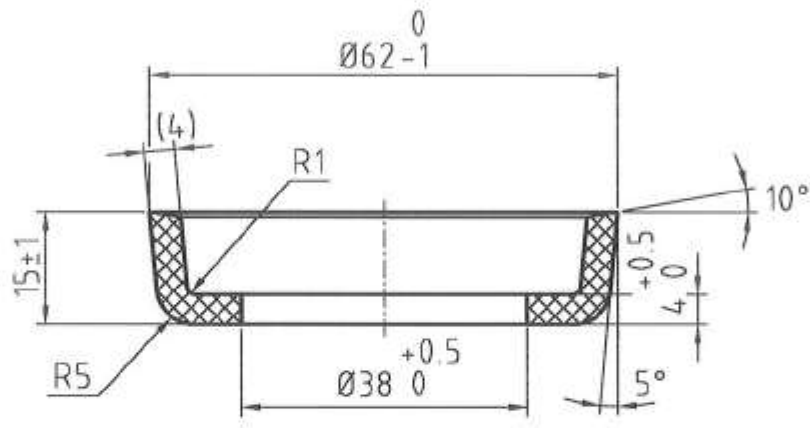
Pos.	Qty.	Description	Drawing No.	Remarks
Rural Water Supply Network		Sub assembly for Leather cup-seal		Scale:
RWSN		Plunger assembly		1 : 1
				Drawn by: K. Erpf 25.11.03
				Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				
				A2407



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES ± 0.5 UNLESS OTHERWISE STATED

(A) (C)

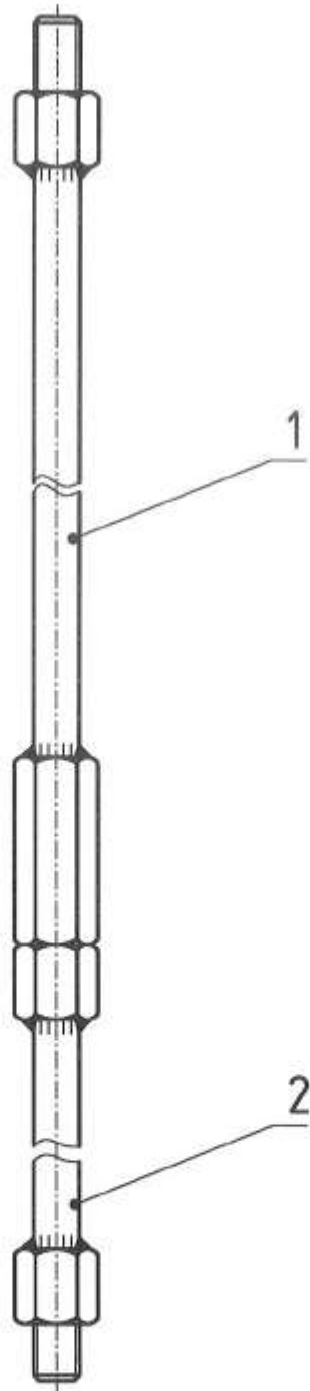
Spacer	$\text{Ø}60 \times 22$	Copper zinc alloy	ISO 426-2	CuZn38Pb4
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Spacer	Scale: 1 : 1	Drawn by: t.leder	15.03.97
			Checked by: <i>[Signature]</i>	05.07.07
			Released by: <i>[Signature]</i>	09.07.07
International Handpump Specification				C2408



GENERAL TOLERANCES +/-0.5 UNLESS OTHERWISE STATED

(A) (C)

Leather cup seal	Ø62 x 15	Ox- or Cow leather	---	vegetable tanned
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale:	Drawn by: K.Erpf 25.11.03
	Leather cup seal		1 : 1	Checked by: [Signature] 05.07.07
				Released by: [Signature] 09.07.07
International Handpump Specification				C2409

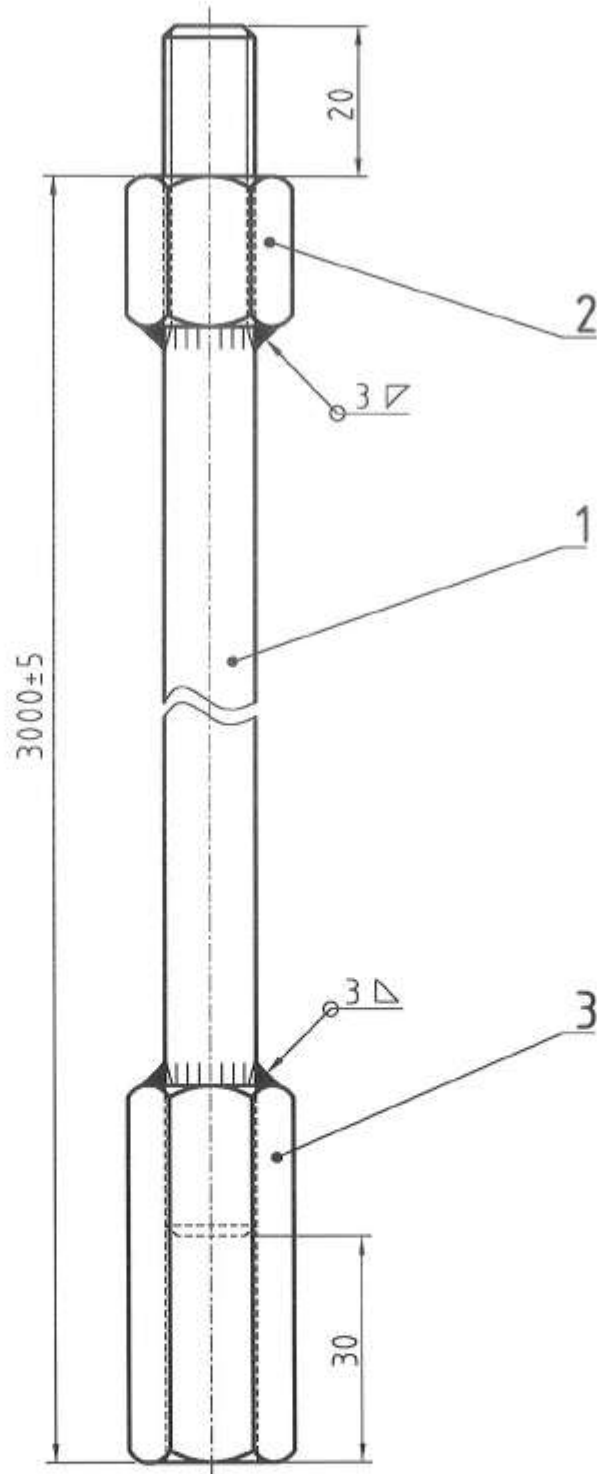


(A) (B) (C)

2	1	Plunger rod assy.	B2555	---
1	X	Pumprod assy.	B2383	---
Pos.	Qty.	Description	Drawing. No.	Remarks

Rural Water Supply Network RWSN	Sub assembly		AISI 304	Scale: 1 : 2	Drawn by: K. Erpf	19.11.97
	Pumprod arrangement				Checked by: <i>[Signature]</i>	05.07.07
					Released by: <i>[Signature]</i>	09.07.07

International Handpump Specification		A2380
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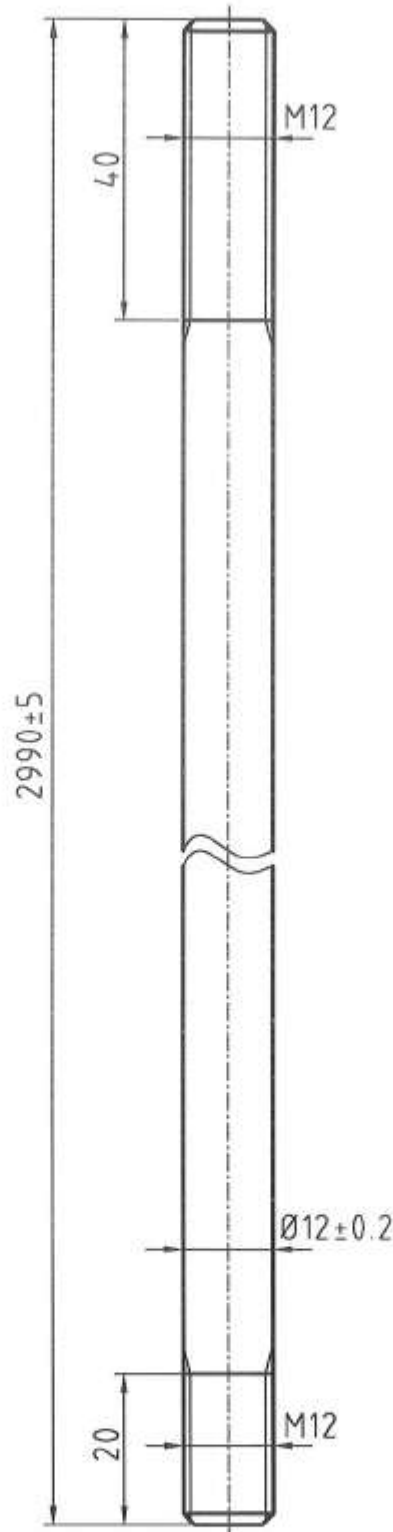
WELDED TO ISO 9692
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(A) (B) (C)

3	1	Hex.coupler	C1055	M12x50
2	1	Hex.coupler	C1053	M12x20
1	1	Rod	C2382	---
Pos.	Qty.	Description	Drawing. No.	Remarks

Rural Water Supply Network RWSN	Sub assembly		AISI 304	Scale:	Drawn by: K. Erpf	11.07.01
	Pumprod assembly			1:1	Checked by:	05.07.07
					Released by:	09.07.07

International Handpump Specification		B2383
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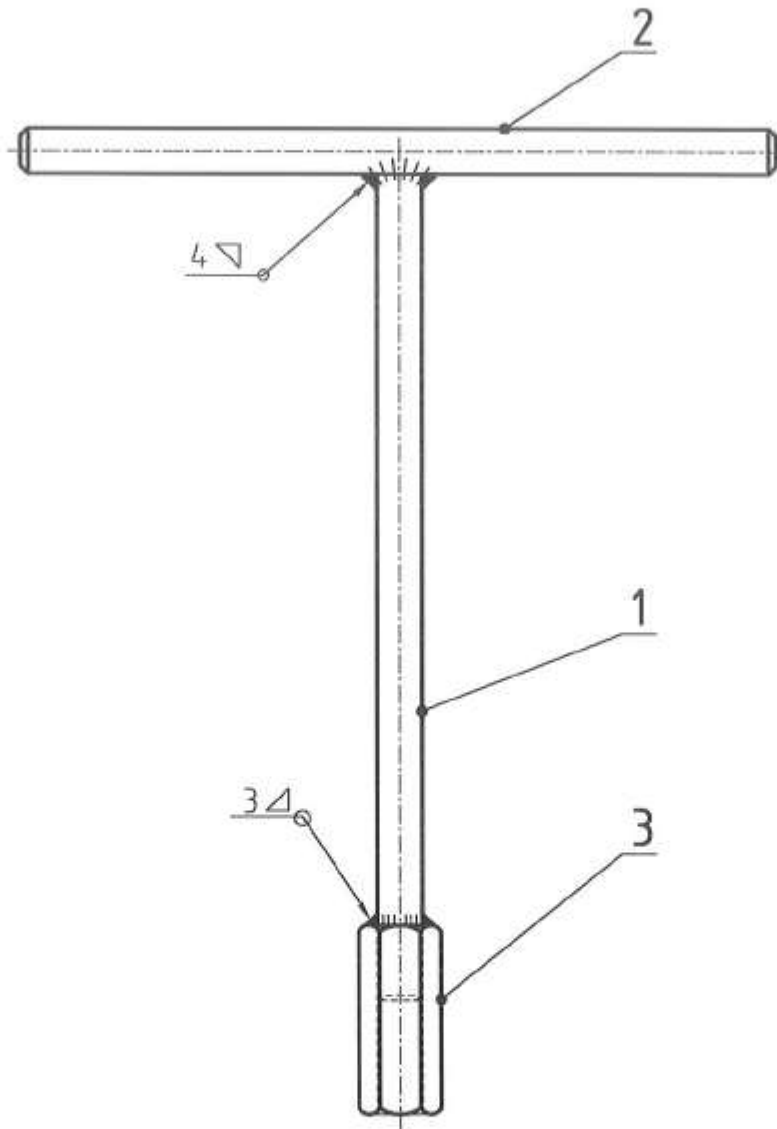


GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

Rod	$\text{Ø}12 \times 2990$	Stainless Steel	ISO 15510	X5CrNi 18-9, bright
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Rod		Scale: 1 : 1	Drawn by: K.Erpf 15.03.97 Checked by: <i>[Signature]</i> 02.03.07 Released by: <i>[Signature]</i> 07.03.07
International Handpump Specification				C2382

Installation- and Maintenance Tools for the

India Mark Handpumps



WELDED TO ISO 9692
ELECTROPLATED TO ISO 2081/82

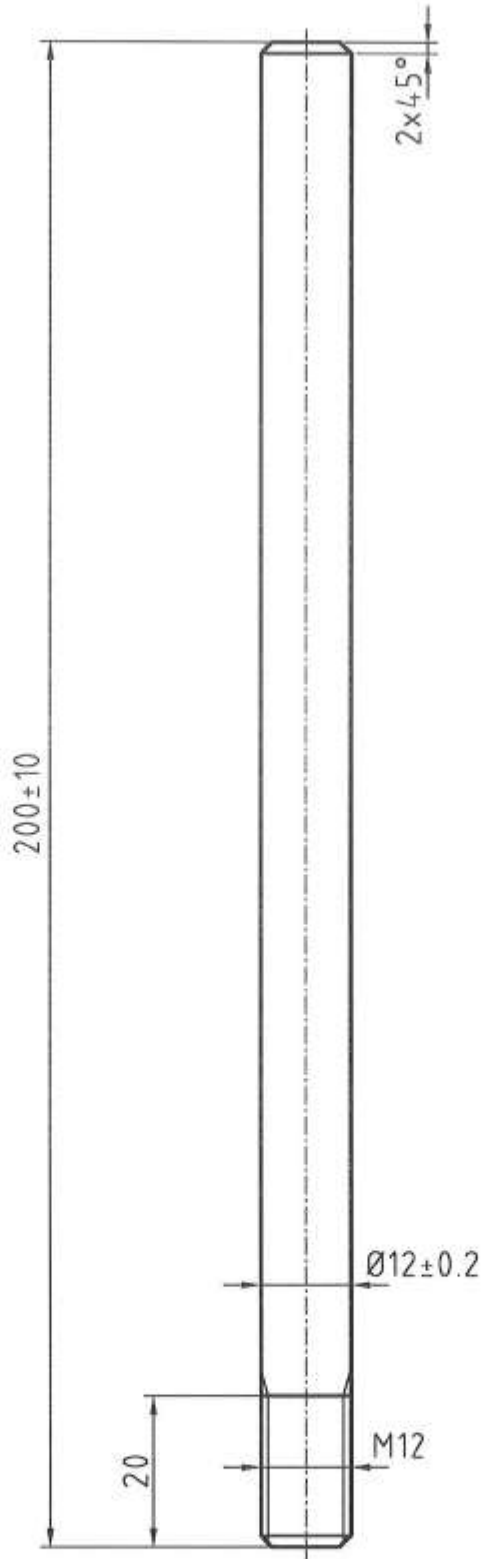


3	1	Hex. coupler	C1015	---
2	1	T-bar	C2422	---
1	1	Rod	C2421	---

Pos.	Qty.	Description	Drawing. No.	Remarks
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Rural Water Supply Network RWSN	Sub assembly		Scale: 1 : 2	Drawn by: K Erpf	26.03.01
	Connecting tool assy.			Checked by: <i>[Signature]</i>	02.03.07
				Released by: <i>[Signature]</i>	07.03.07

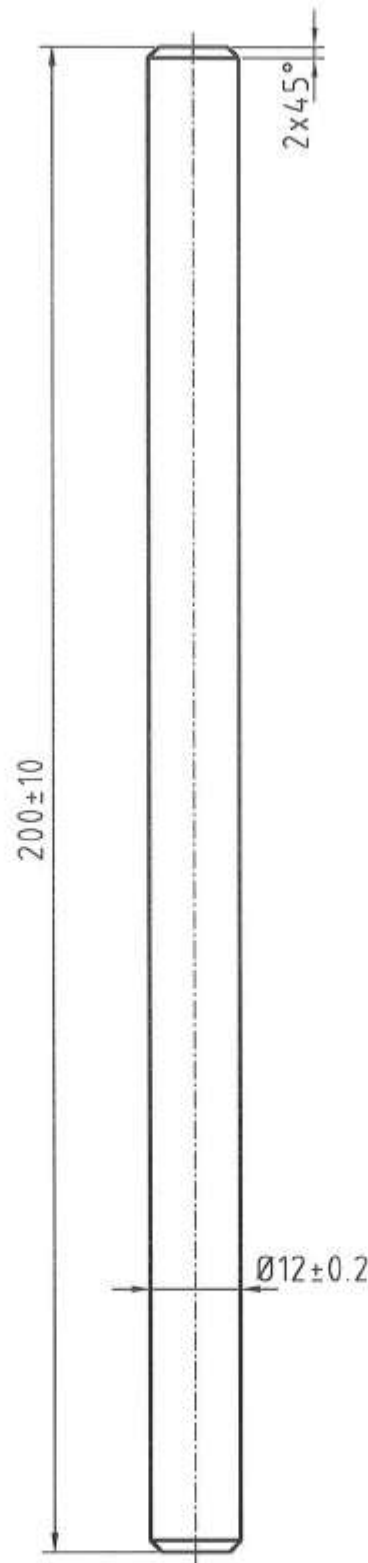
International Handpump Specification		B2420
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GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED



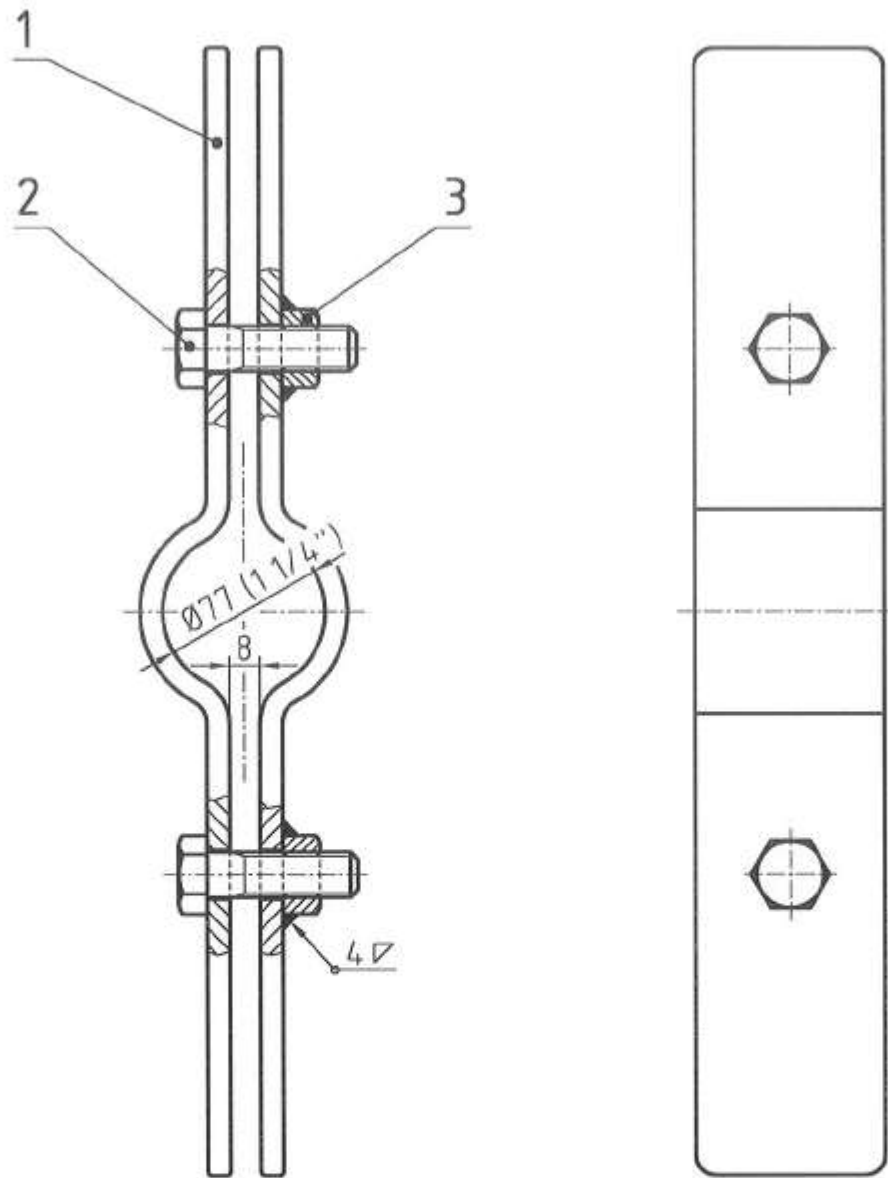
Rod	Ø12 x 200	E 235	ISO 630	bright
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing Rod	Scale: 1 : 1	Drawn by: K.Erpf 26.03.01	
			Checked by: 02.03.07	
International Handpump Specification			Released by: 07.03.07	C2421



GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED



T-bar	Ø12 x 200	E 235	ISO 630	bright		
Description	Dimensions	Material	Standards	Remarks		
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by:	K.Erpf	26.03.01
	T-bar			Checked by:		02.03.07
				Released by:		07.03.07
International Handpump Specification				C2422		

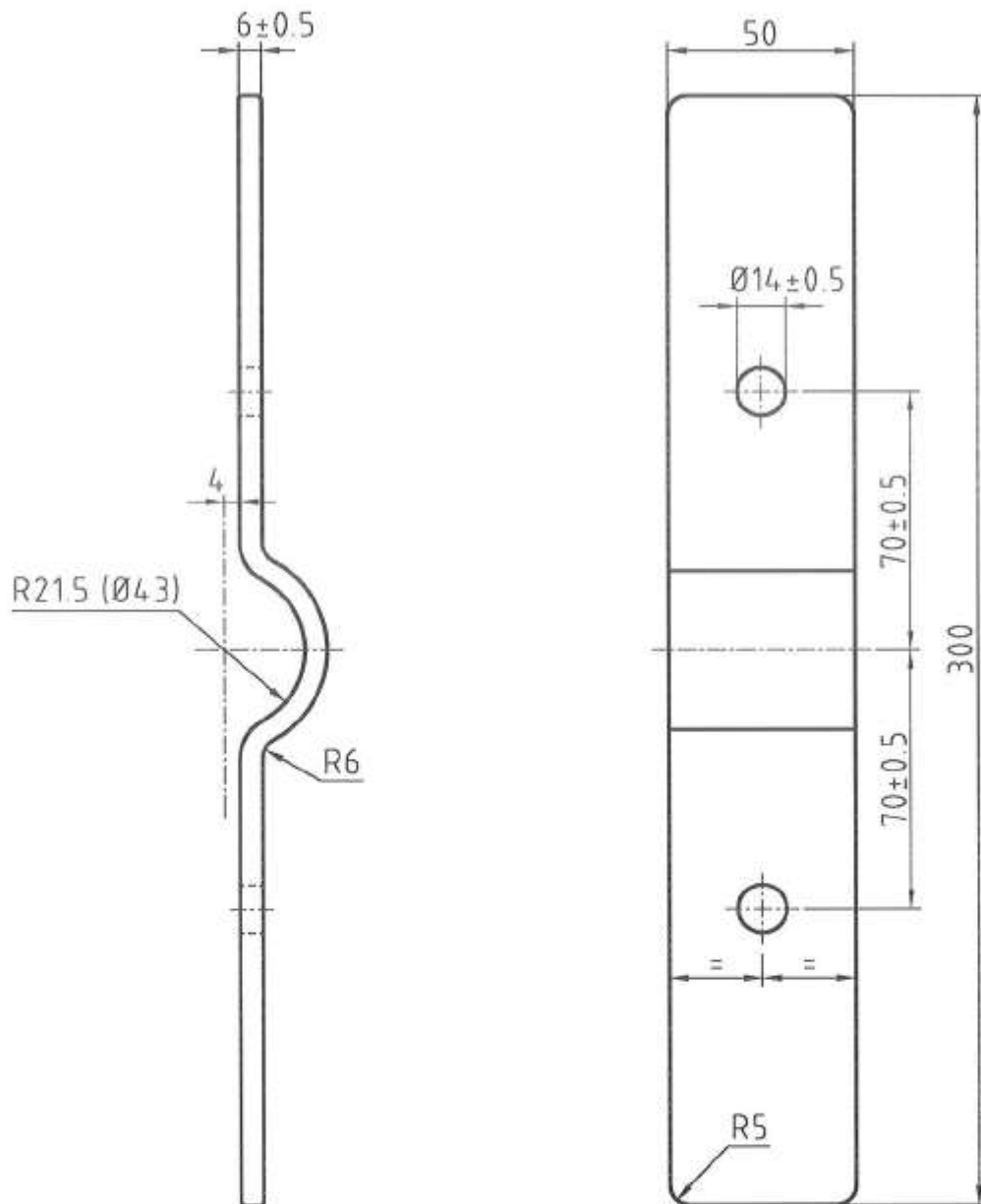


WELDED TO ISO 9692
 ELECTROPLATED TO ISO 1081/82
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(A) (C)

Pos.	Qty.	Description	Drawing. No.	Remarks
3	2	Hexagonal nut	C1016	for M12
2	2	Hexagonal bolt	C1017	M12 x 40
1	2	Clamp	C2471	---

Rural Water Supply Network RWSN	Sub assembly	Scale: 1 : 2	Drawn by:	K. Erpf	25.11.03
	Pipe clamp assembly		Checked by:	<i>[Signature]</i>	05.07.07
			Released by:	<i>[Signature]</i>	09.07.07
International Handpump Specification			A2470		

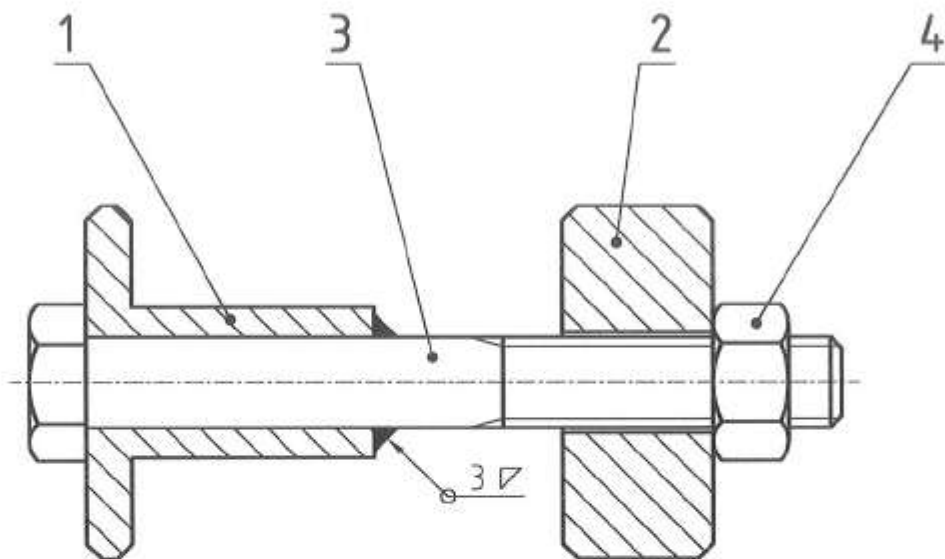


LENGTH PRIOR TO BENDING = 313 mm

ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE ± 0.2 UNLESS OTHERWISE STATED

(A) (C)

Clamp	6 x 50 x 313	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing	Clamp	Scale: 1 : 2	Drawn by: K.Erpf 27.11.03
				Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2471



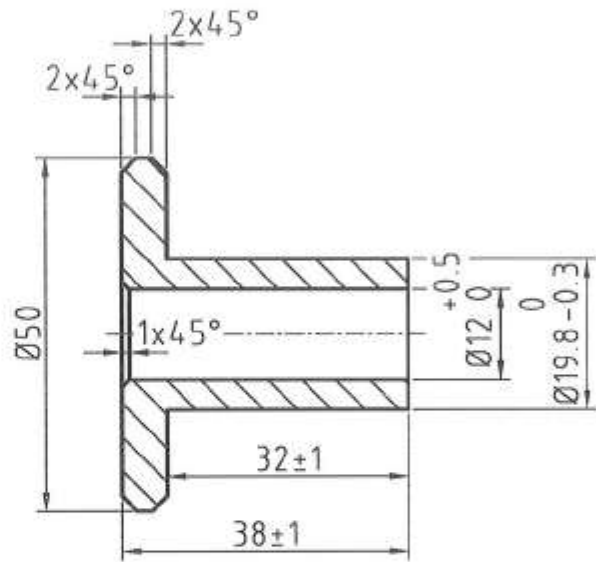
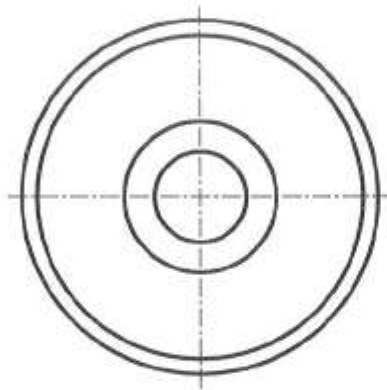
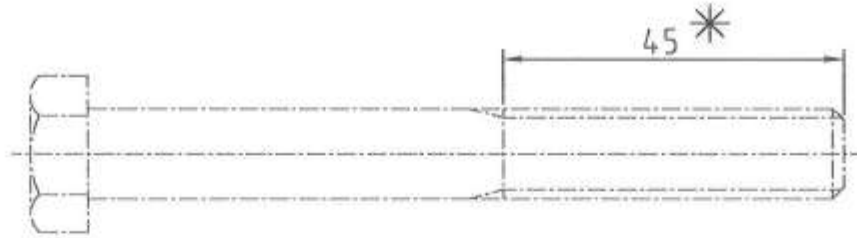
WELDED TO ISO 9692
ELECTROPLATED TO ISO 2081/82

(A) (B) (C)

4	1	Hexagonal nut	C1016	M12
3	1	Hexagonal bolt	C1036	M12 x 100
2	1	Pressure plate	C2480	---
1	1	Bearing holder	C2479	---
Pos.	Qty.	Description	Drawing. No.	Remarks




Rural Water Supply Network RWSN	Sub assembly		Scale: 1 : 1	Drawn by: K. Erpf	27.11.03
	Bearing mounting assy.			Checked by: <i>[Signature]</i>	05.07.07
				Released by: <i>[Signature]</i>	09.07.07
International Handpump Specification				A2478	

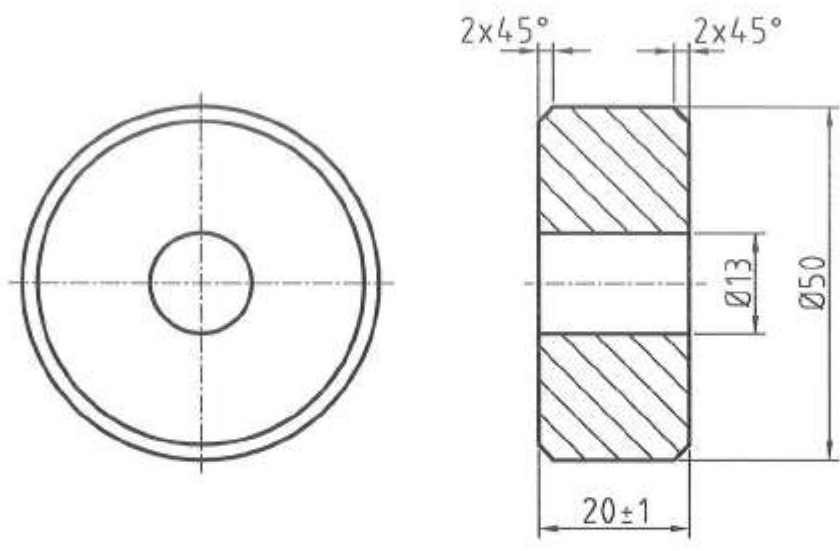
* THREAD LENGTH TO BE INCREASED FROM 30 mm TO 45 mm



ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE ± 0.5 UNLESS OTHERWISE STATED

(A) (B) (C)

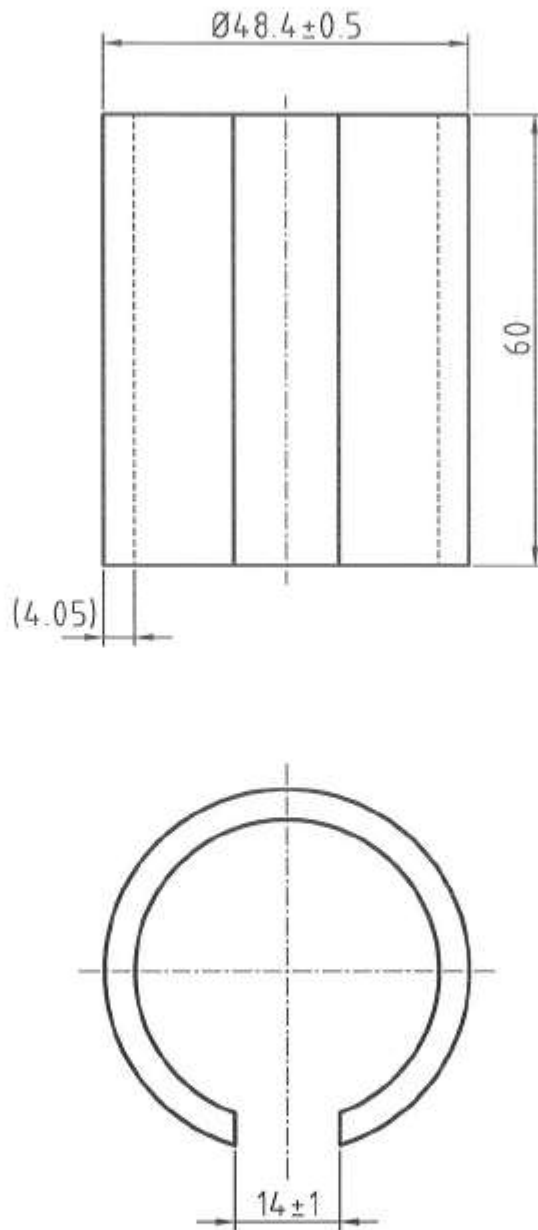
Bearing holder	Ø50 x 38	E 355	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1:1	Drawn by: K.Erpf 27.11.03
	Bearing holder			Checked by:  05.07.07
International Handpump Specification			Released by:  09.07.07	
				 C2479



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-0.5 UNLESS OTHERWISE STATED





(A) (B) (C)

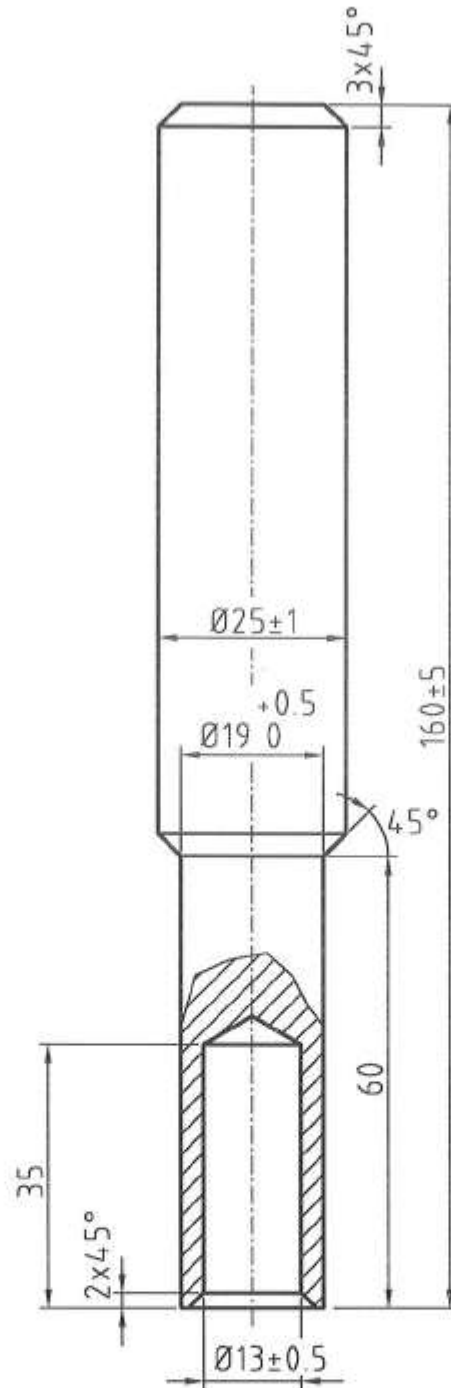
Pressure plate	Ø50 x 20	E 355	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 27.11.03
	Pressure plate			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2480



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 0.2 UNLESS OTHERWISE STATED





(A) (B) (C)

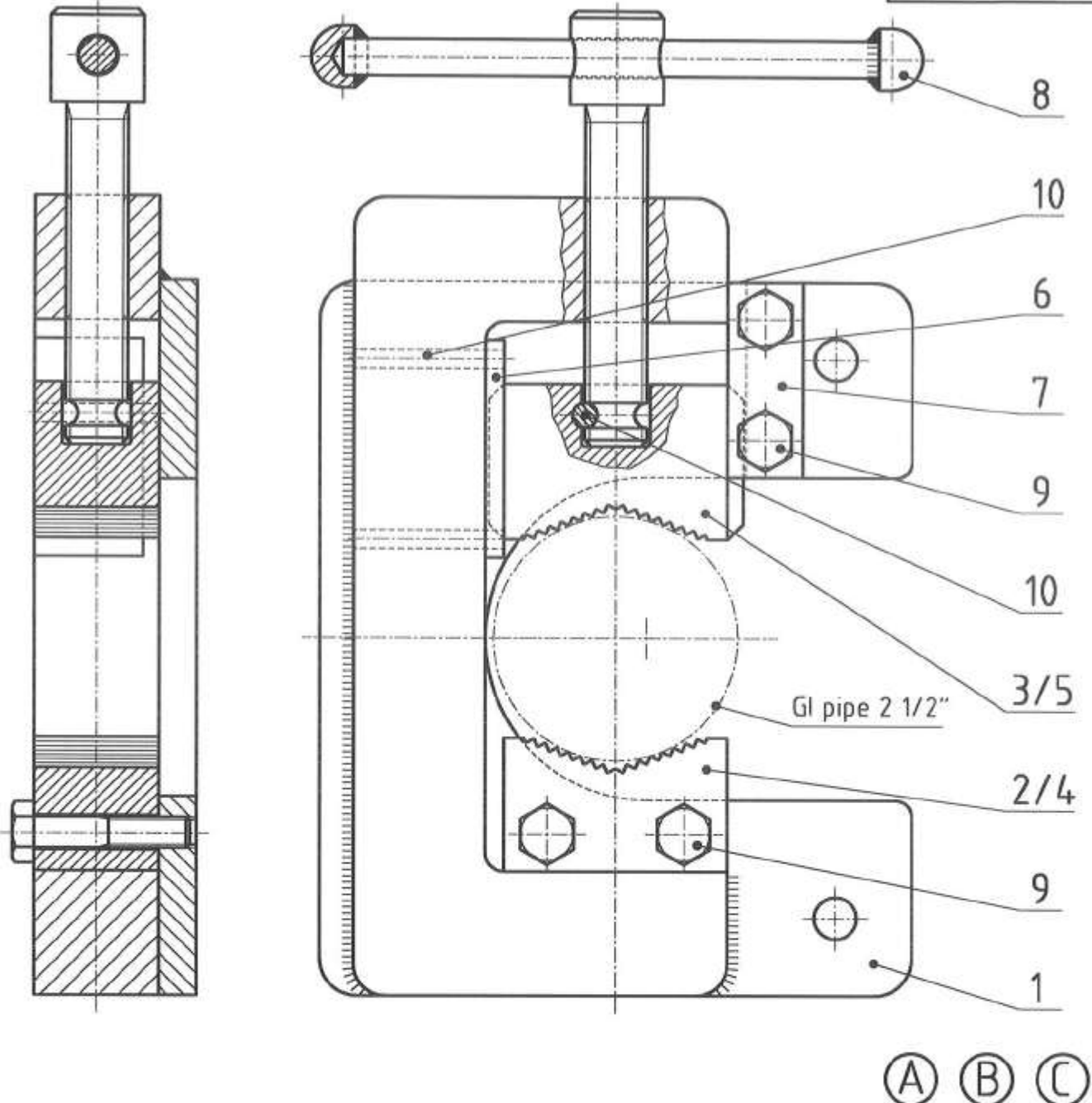
Chain support	$\varnothing 48.4 / 4.05 \times 60$	ST 320	NB40, heavy	1 1/2" pipe, galvanized
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing Chain support	Scale: 1 : 1	Drawn by: K.Erpf 26.11.03	
			Checked by:  05.07.07	
			Released by:  09.07.07	
International Handpump Specification				C2476



ELECTROPLATED TO ISO 2081/82
 ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/- 0.2 UNLESS OTHERWISE STATED

(A) (B) (C)

Axle punch	Ø25 x 160	E 355	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 26.11.03
	Axle punch			Checked by:  05.07.07
				Released by:  09.07.07
International Handpump Specification				C2477



10	3	Dowel pin	C1151	Ø8 x 40 (hardened)
9	4	Hex. bolt	C1150	M10 x 50
8	1	Handle assembly	B2557	---
7	1	Guide	C2524	---
6	1	Side plate	C2523	---
5	2	Clamping jaw 2 1/2"	C2522	for GI pipe 2 1/2" (India Mark III Pump)
4	2	Fixed jaw 2 1/2"	C2521	for GI pipe 2 1/2" (India Mark III Pump)
3	2	Clamping jaw 1 1/4"	C2520	for GI pipe 1 1/4" (India Mark II Pump)
2	2	Fixed jaw 1 1/4"	C2519	for GI pipe 1 1/4" (India Mark II Pump)
1	1	Vice plate assy.	B2516	---

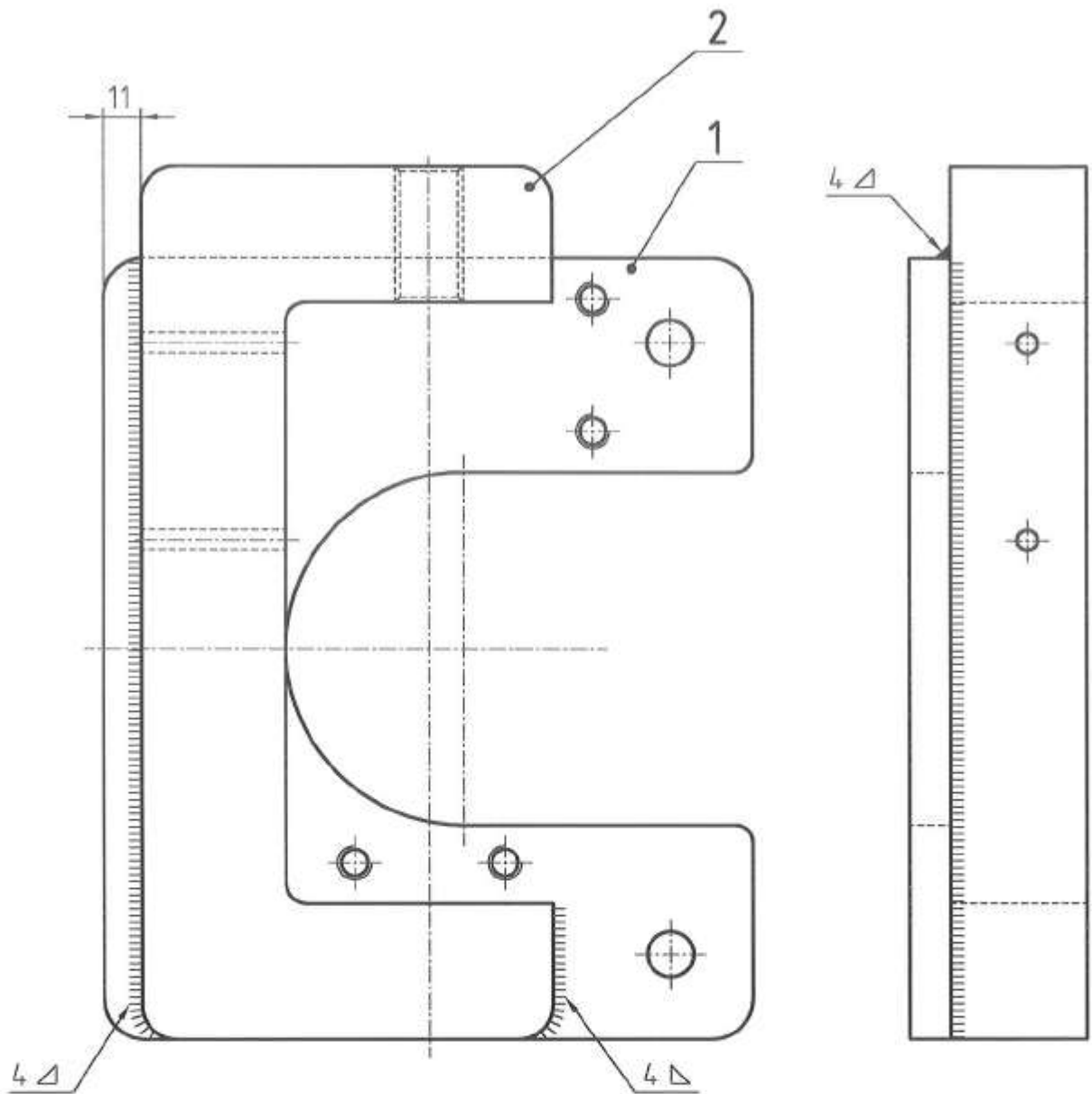
Pos.	Qty.	Description	Drawing. No.	Remarks
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Rural Water Supply Network RWSN	Sub assembly		Scale: 1 : 2	Drawn by: K. Erpf	06.06.07
	Pipe vice assembly			Checked by: <i>[Signature]</i>	05.07.07
				Released by: <i>[Signature]</i>	09.07.07

International Handpump Specification



A2515



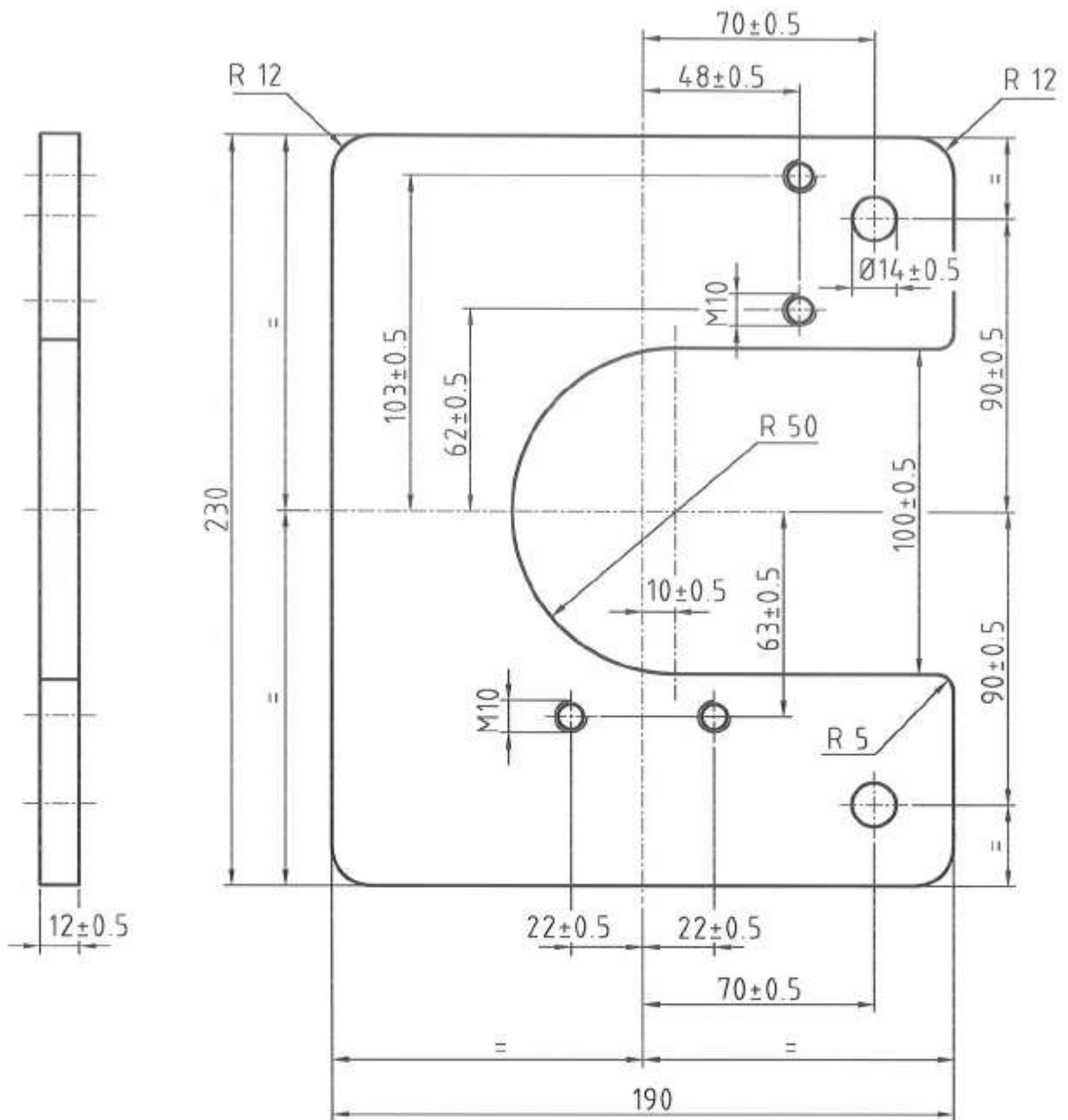
WELDED TO ISO 9692
 ELECTROPLATED TO ISO 2081/82
 GENERAL TOLERANCE +/- 1 UNLESS OTHERWISE STATED

(A) (B) (C)

2	1	Vice plate	C2518	---
1	1	Base plate	C2517	---
Pos.	Qty.	Description	Drawing. No.	Remarks

Rural Water Supply Network	Sub assembly	Scale:	Drawn by:	K. Erpf	06.06.07
RWSN	Vice plate assembly	1 : 2	Checked by:	<i>[Signature]</i>	05.07.07
			Released by:	<i>[Signature]</i>	09.07.07

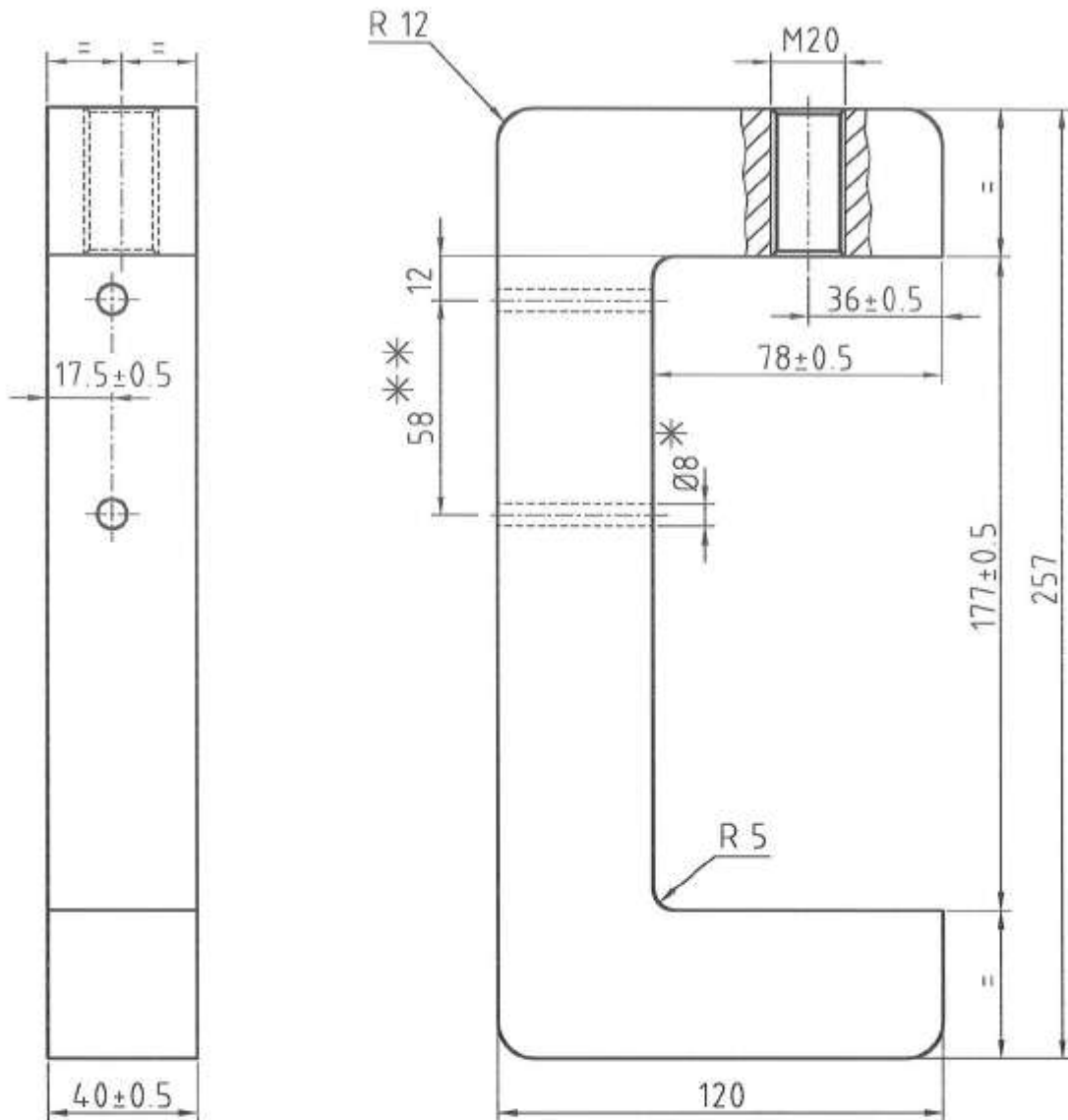
International Handpump Specification		B2516
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ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(A) (B) (C)

Base plate	12 x 190 x 230	E 235	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 2	Drawn by: K.Erpf 12.06.07
	Base plate			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2517



- * Pressfit with dowel pin C1151
- ** Drilled and reamed together with Side plate C2523

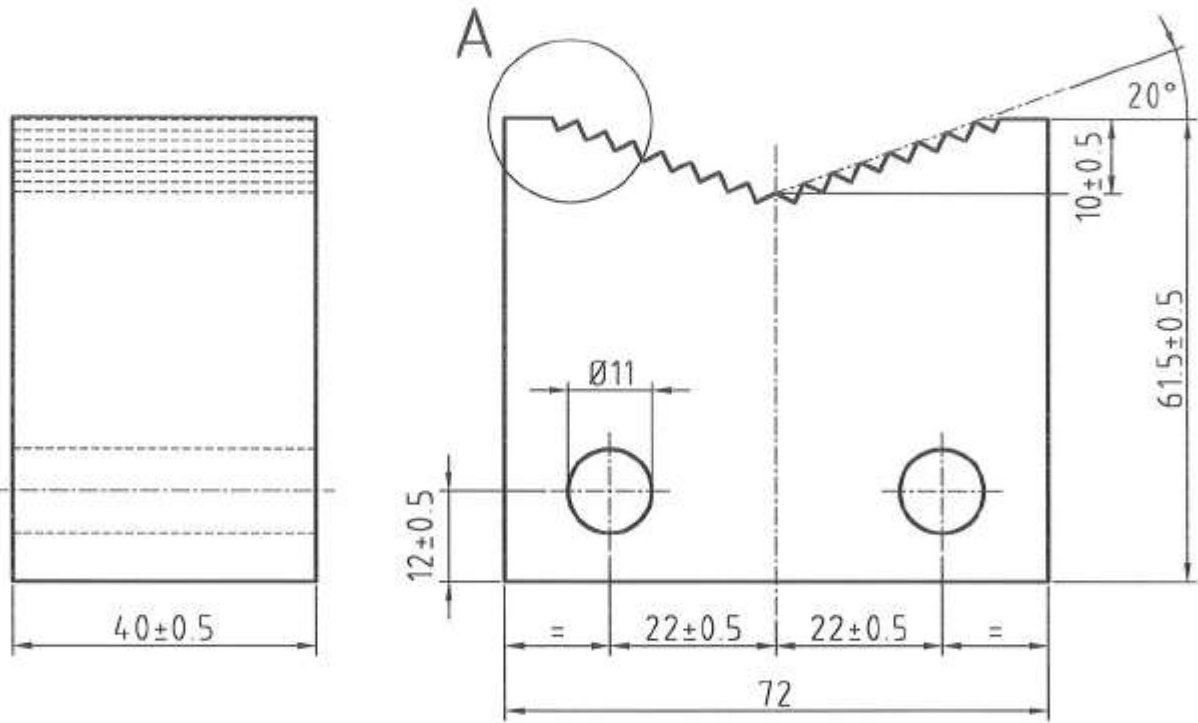
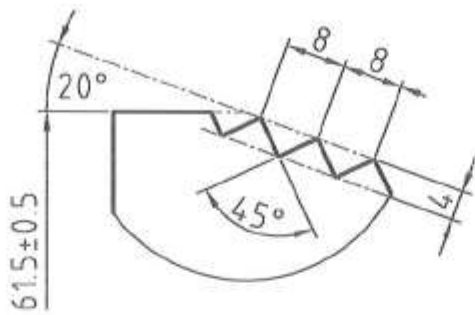
ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(A) (B) (C)

Vice plate	40 x 120 x 257	E 235	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 2	Drawn by: K.Erpf 12.06.07
	Vice plate			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2518

Detail A

(Scale 2 : 1)



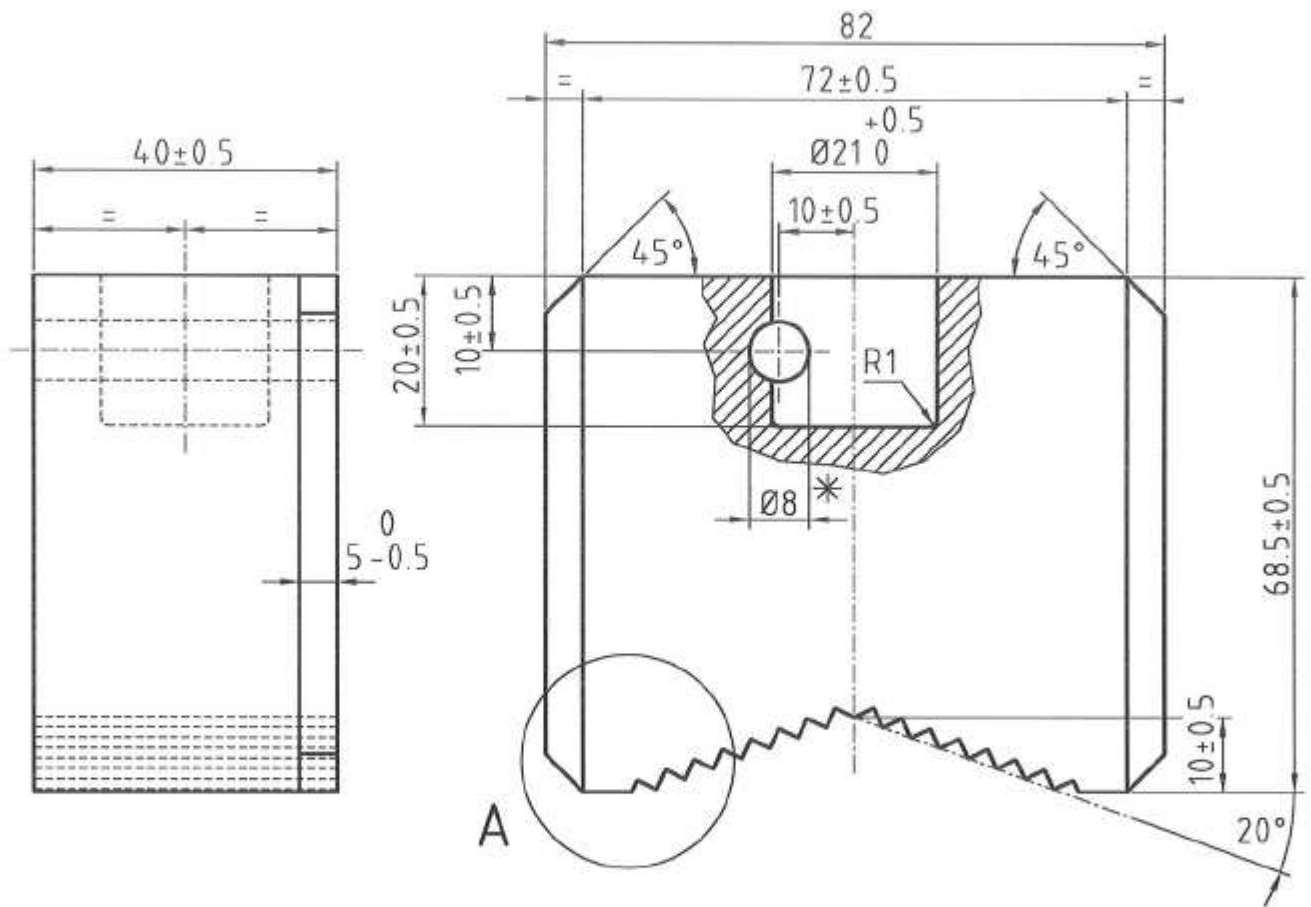
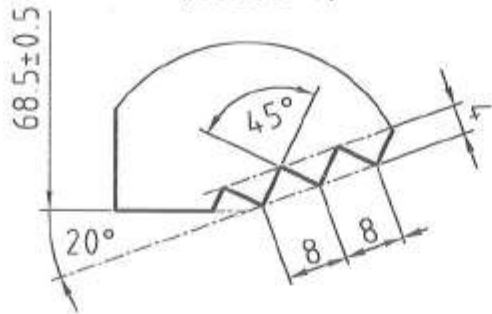
ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(A) (C)

Fixed jaw 1 1/4"	40 x 61.5 x 72	Tool steel	ISO 630	hardened
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1 (2 : 1)	Drawn by: K.Erpf 12.06.07
	Fixed jaw 1 1/4"			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2519

Detail A

(Scale 2 : 1)

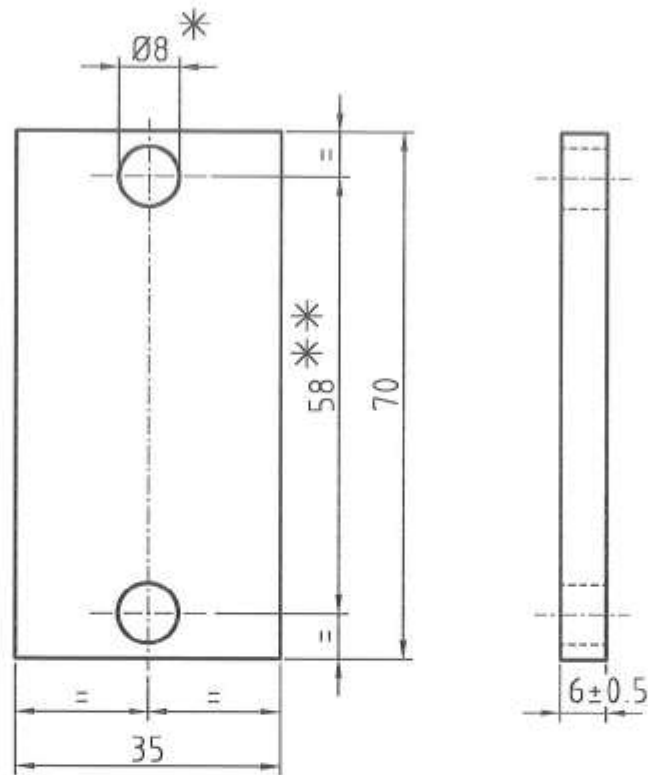


*Press fit with dowel pin C1151

ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE ± 0.1 UNLESS OTHERWISE STATED

(A) (C)

Description	Dimensions	Material	Standards	Remarks
Clamping jaw 1 1/4"	40 x 68.5 x 82	Tool steel	ISO 630	hardened
Rural Water Supply Network RWSN		Detail drawing Clamping jaw 1 1/4"		Drawn by: K.Erpf 12.06.07 Checked by: <i>[Signature]</i> 05.07.07 Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2520



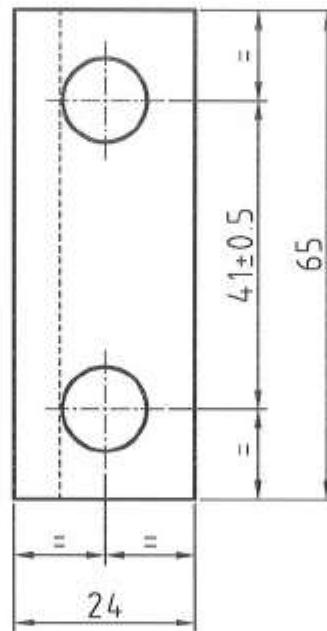
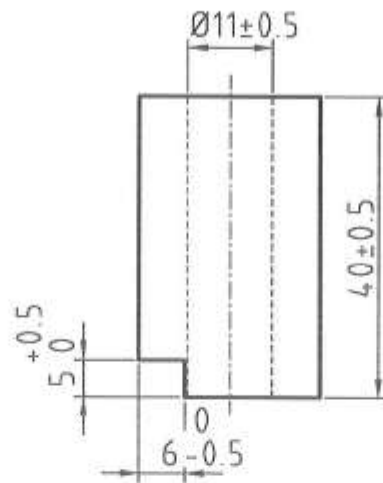
* Pressfit with dowel pin C1151

** Drilled and reamed together with Vice plate C2518

ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED





(A) (B) (C)

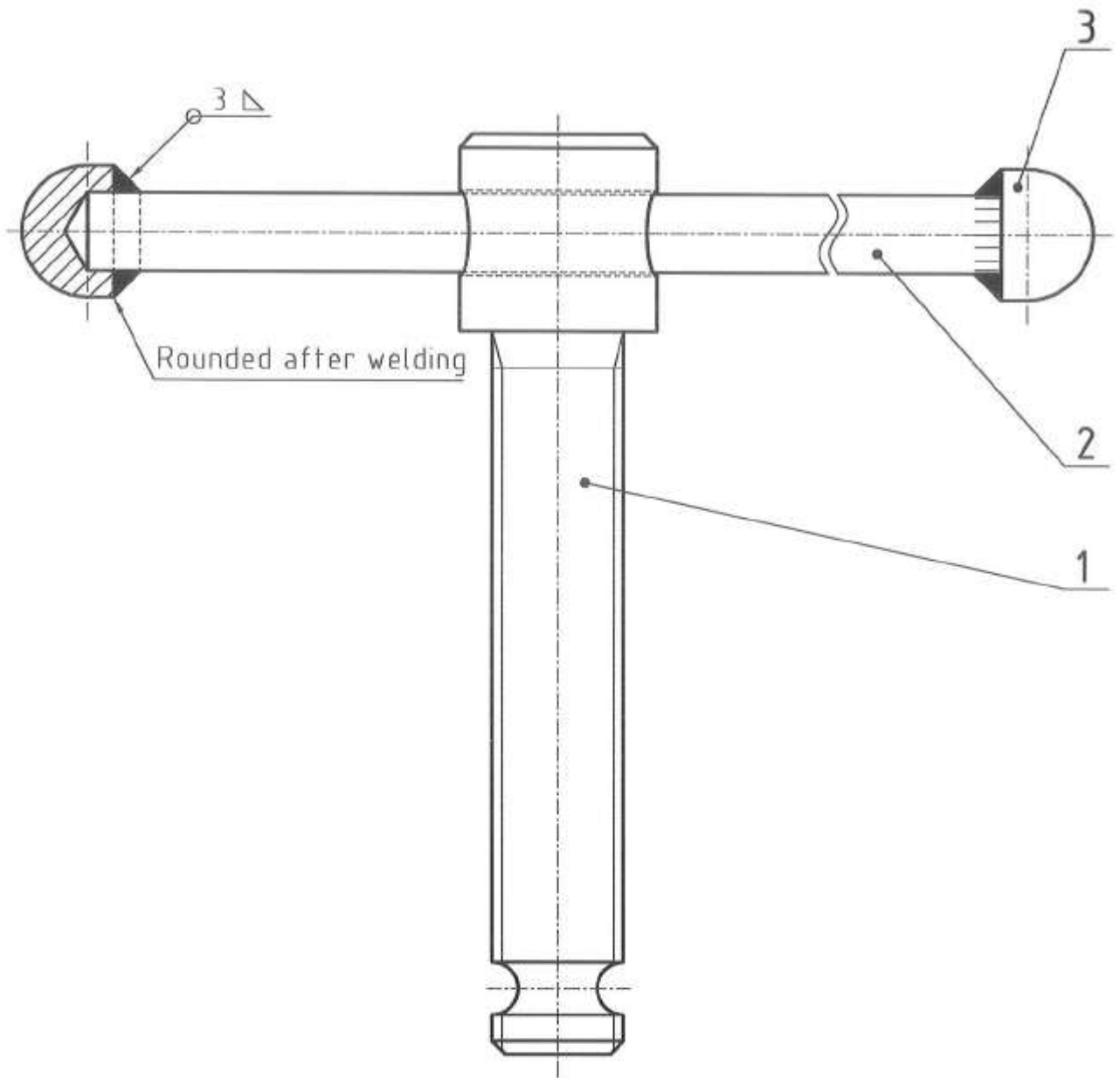
Side plate	6 x 35 x 70	Tool steel	ISO 630	hardened
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 12.06.07
	Side plate			Checked by: <i>[Signature]</i> 05.07.07
			Released by: <i>[Signature]</i> 09.07.07	
International Handpump Specification				C2523



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(A) (B) (C)

Guide	24 x 40 x 65	Tool steel	ISO 630	hardened
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing Guide	Scale: 1 : 1	Drawn by: K.Erpf	12.06.07
			Checked by: 	05.07.07
			Released by: 	09.07.07
International Handpump Specification				C2524

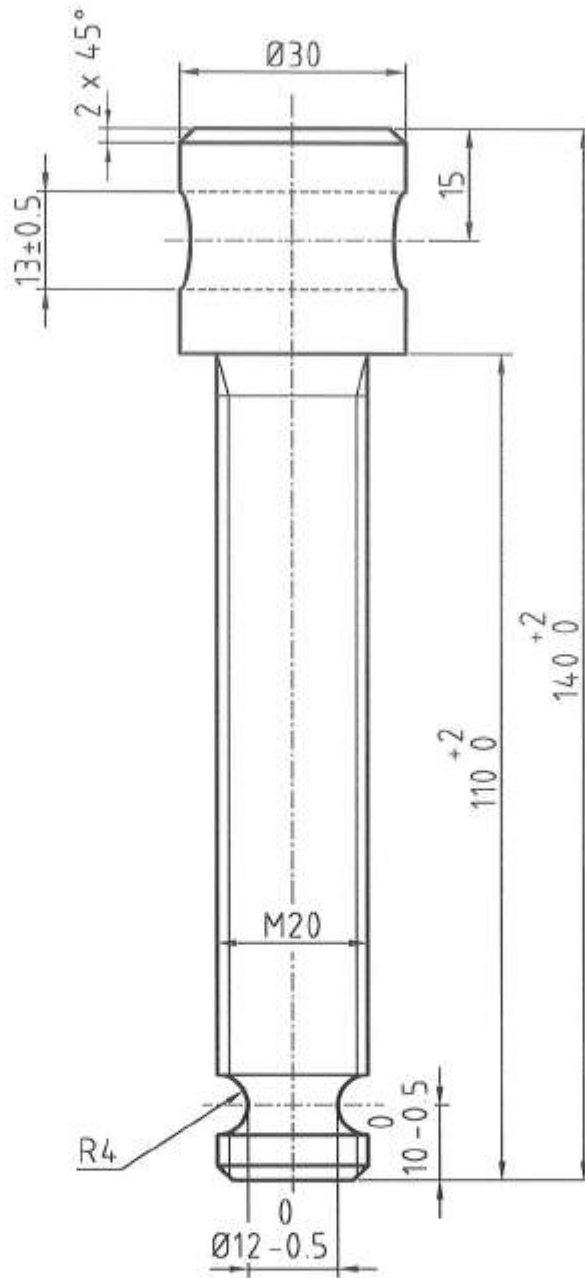


WELDED TO ISO 9692
ELECTROPLATED TO ISO 2081/82

(A) (B) (C)

Pos.	Qty.	Description	Drawing. No.	Remarks
3	2	Handle knob	C2560	---
2	1	Handle bar	C2559	---
1	1	Spindle	C2558	---

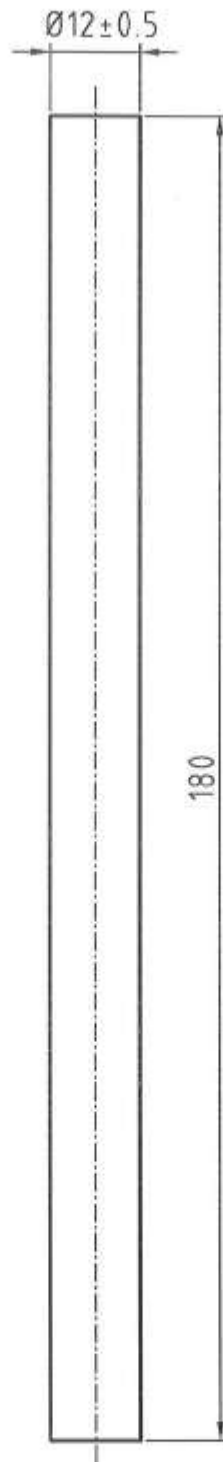
Rural Water Supply Network RWSN	Sub assembly		Scale: 1:1	Drawn by: K. Erpf	06.06.07
	Handle assembly			Checked by: <i>[Signature]</i>	05.07.07
				Released by: <i>[Signature]</i>	09.07.07
International Handpump Specification				B2557	



ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE ± 0.1 UNLESS OTHERWISE STATED

(A) (B) (C)

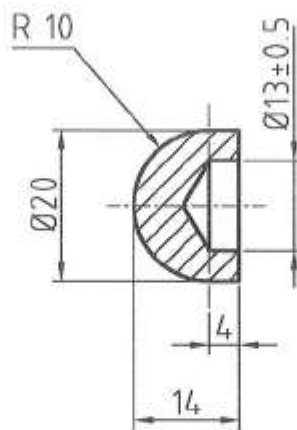
Spindle	$\text{Ø}30 \times 140$	E 235	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing	Scale: 1 : 1		Drawn by: K.Erpf 12.06.07
	Spindle			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2558



ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE ± 0.2 UNLESS OTHERWISE STATED





(A) (B) (C)

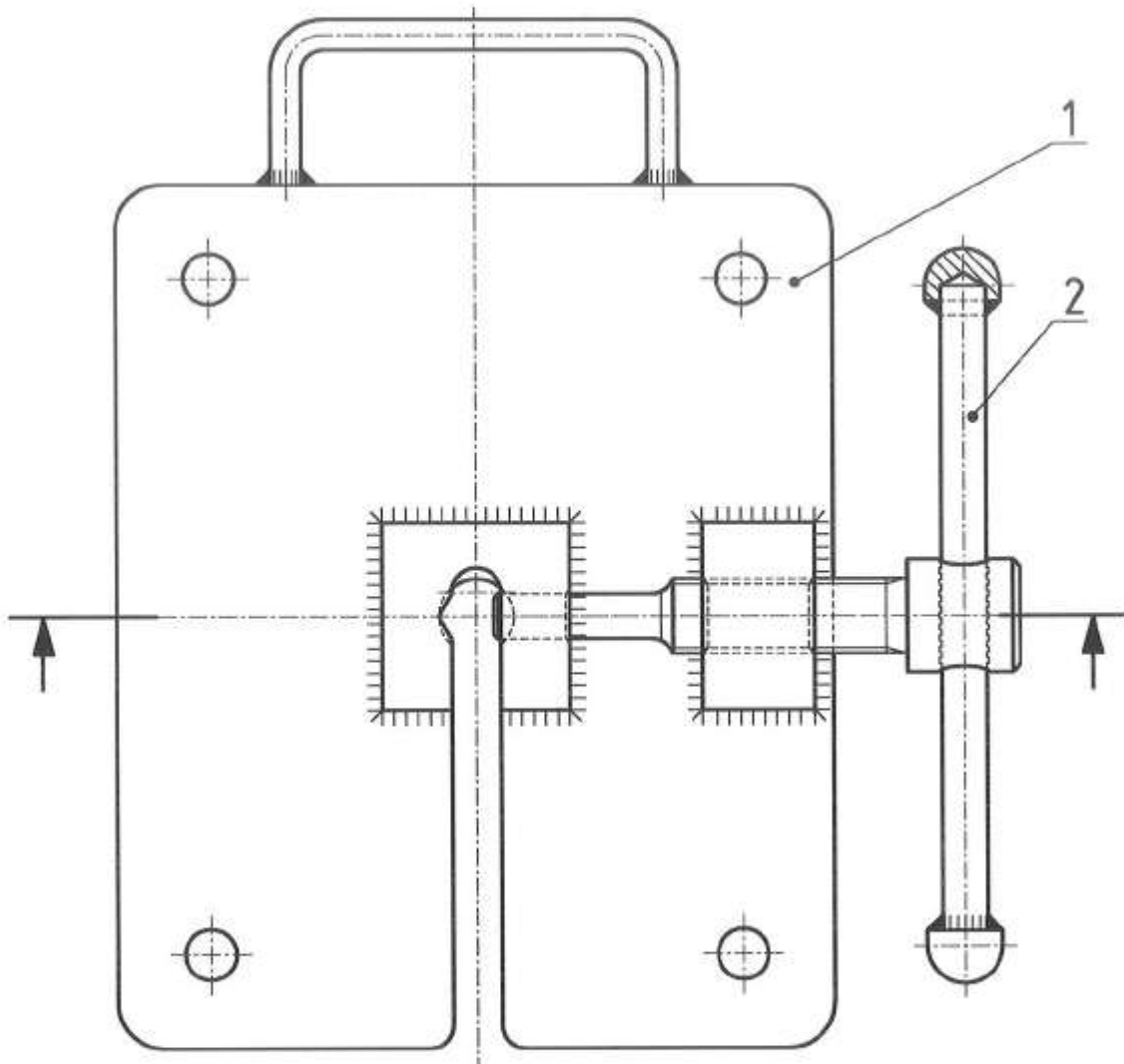
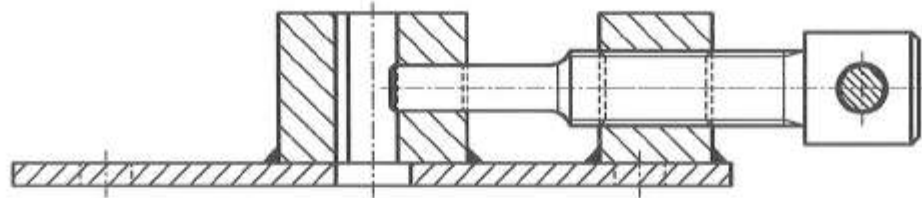
Handle bar	$\varnothing 12 \times 180$	E 235	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 12.06.07
	Handle bar			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2559



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(A) (B) (C)

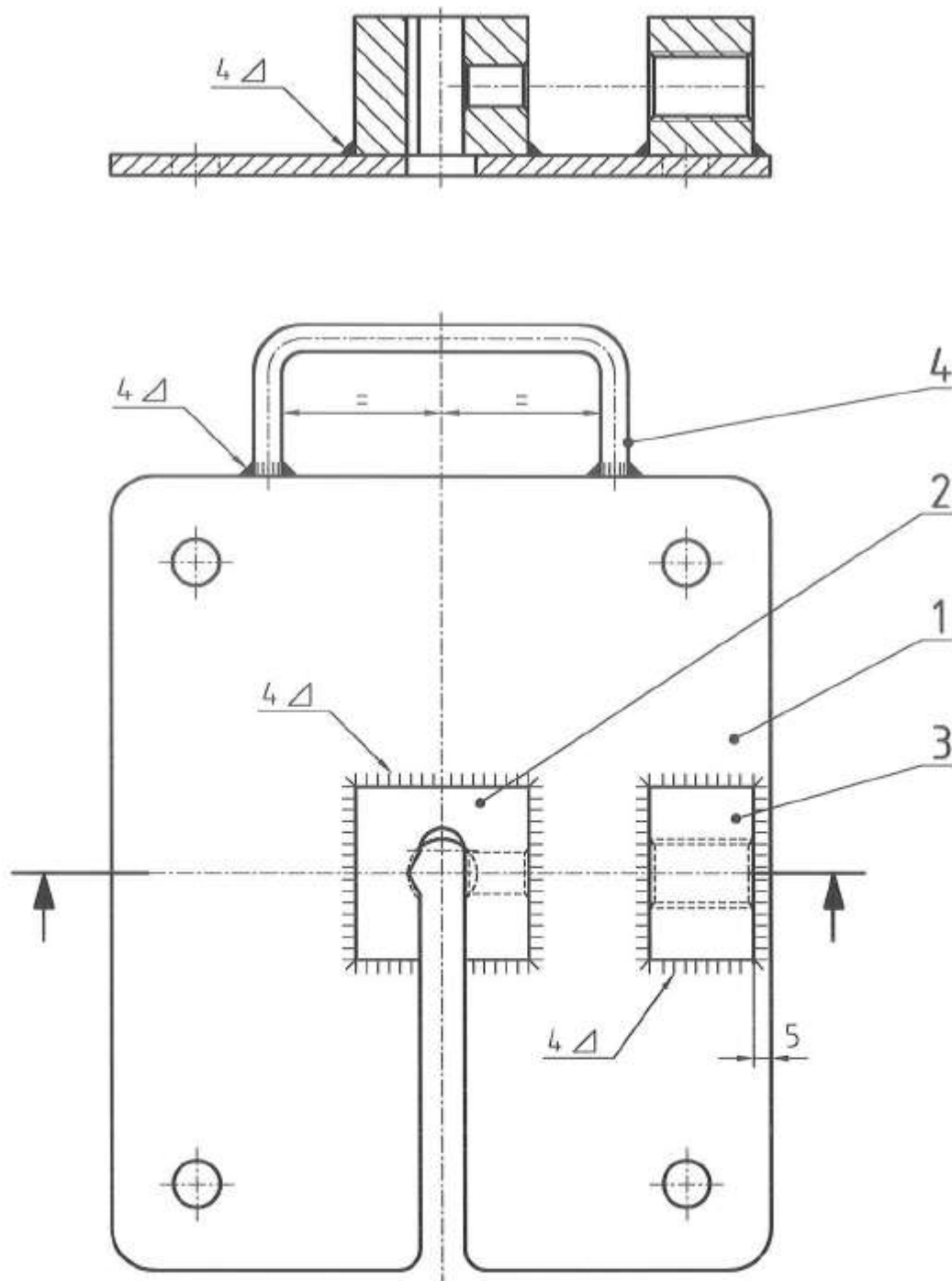
Handle knob	Ø20 x 14	E 235	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 12.06.07
	Handle knob			Checked by:  05.07.07
				Released by:  09.07.07
International Handpump Specification				C2560



2	1	Handle assembly	B2448	---
1	1	Vice flange	B2444	---
Pos.	Qty.	Description	Drawing. No.	Remarks

Rural Water Supply Network RWSN	Sub assembly		Scale: 1 : 2	Drawn by: K.Erpf	26.03.01
	Pumprod vice assembly			Checked by: <i>[Signature]</i>	02.03.07
				Released by: <i>[Signature]</i>	07.03.07

International Handpump Specification		A2443
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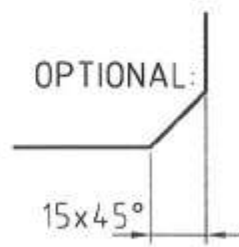
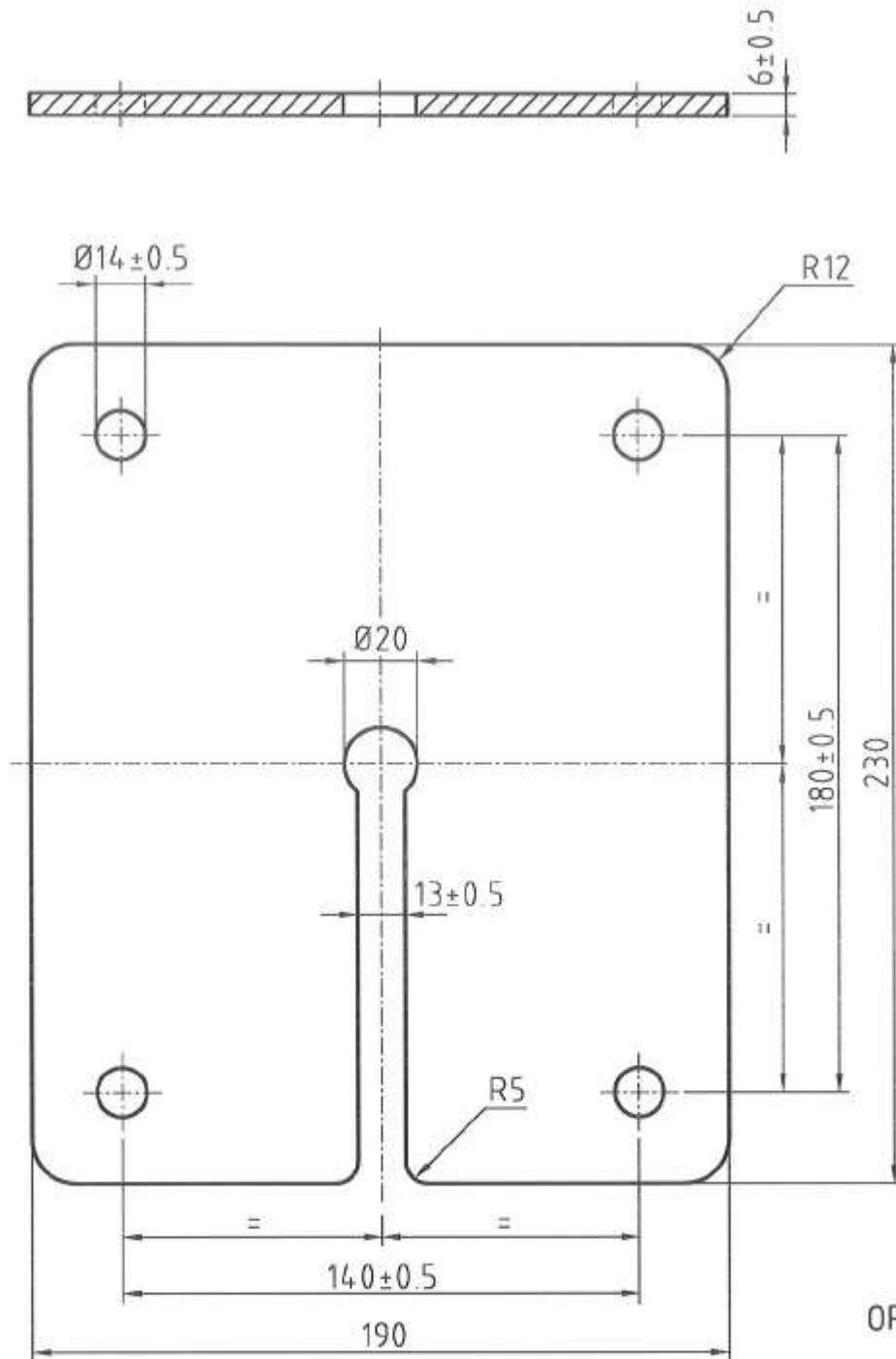


WELDED TO ISO 9692
 ELECTROPLATED TO ISO 2081/82
 GENERAL TOLERANCE ± 1 UNLESS OTHERWISE STATED



4	1	Handle	C2430	---
3	1	Thread piece	C2447	---
2	1	Pressure piece	C2446	---
1	1	Flange	C2445	---

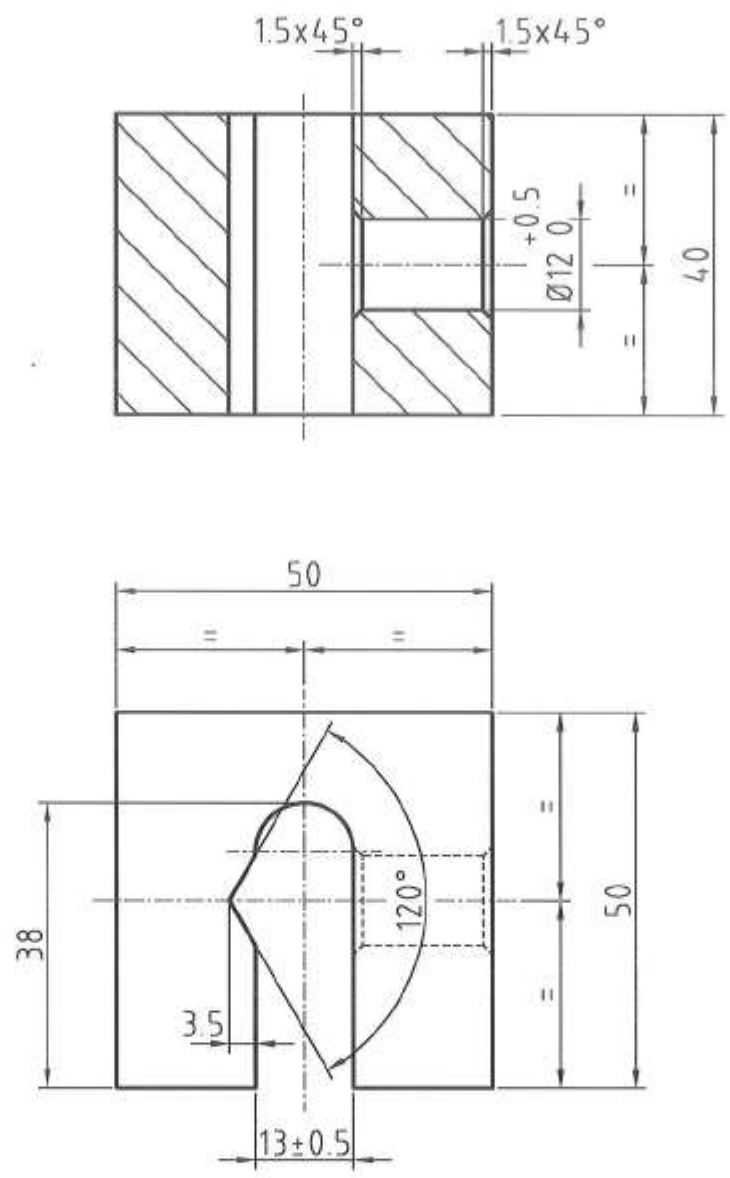
Pos.	Qty.	Description	Drawing. No.	Remarks
Rural Water Supply Network		Sub assembly		Scale: 1 : 2
RWSN		Vice flange assembly		
		Drawn by:	K.Erpf	26.03.01
		Checked by:	<i>[Signature]</i>	02.03.07
		Released by:	<i>[Signature]</i>	07.03.07
International Handpump Specification				
				B2444



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED



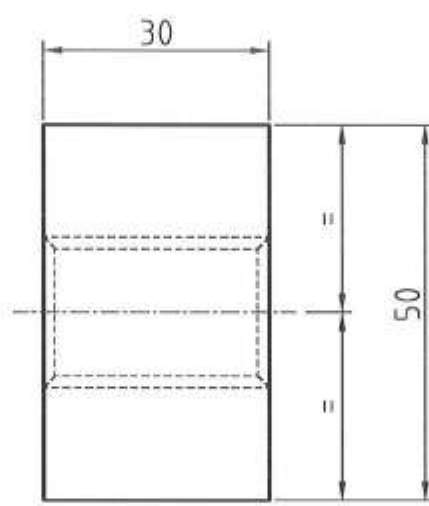
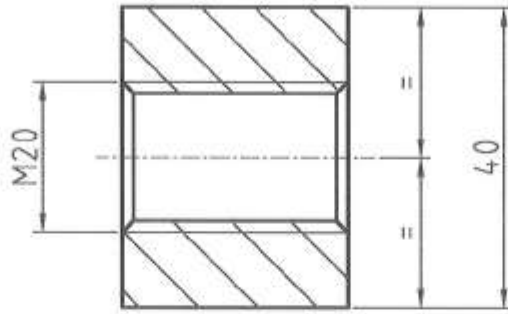
Flange	6 x 190 x 230	E 235	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Flange	Scale: 1 : 2		Drawn by: K.Erpf 26.03.01 Checked by: [Signature] 02.03.07 Released by: [Signature] 07.03.07
International Handpump Specification				C2445



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 1 UNLESS OTHERWISE STATED



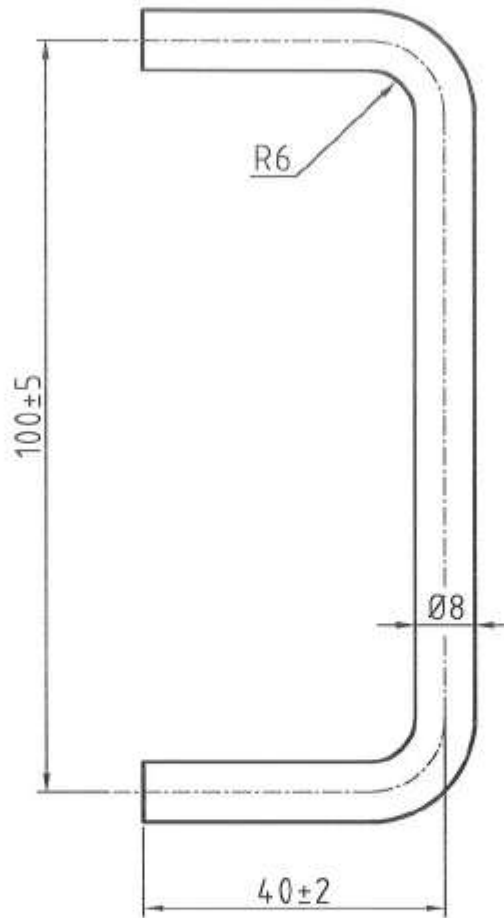
Pressure piece	40 x 50 x 50	E 235	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 26.03.01
	Pressure piece			Checked by: 02.03.07
				Released by: 07.03.07
International Handpump Specification				C2446



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED







Thread piece	30 x 40 x 50	E 235	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Thread piece	Scale: 1 : 1		Drawn by: K.Erpf 26.03.01 Checked by: <i>[Signature]</i> 02.03.07 Released by: <i>[Signature]</i> 07.03.07
International Handpump Specification				C2447



LENGTH PRIOR TO BENDING = 172 MM

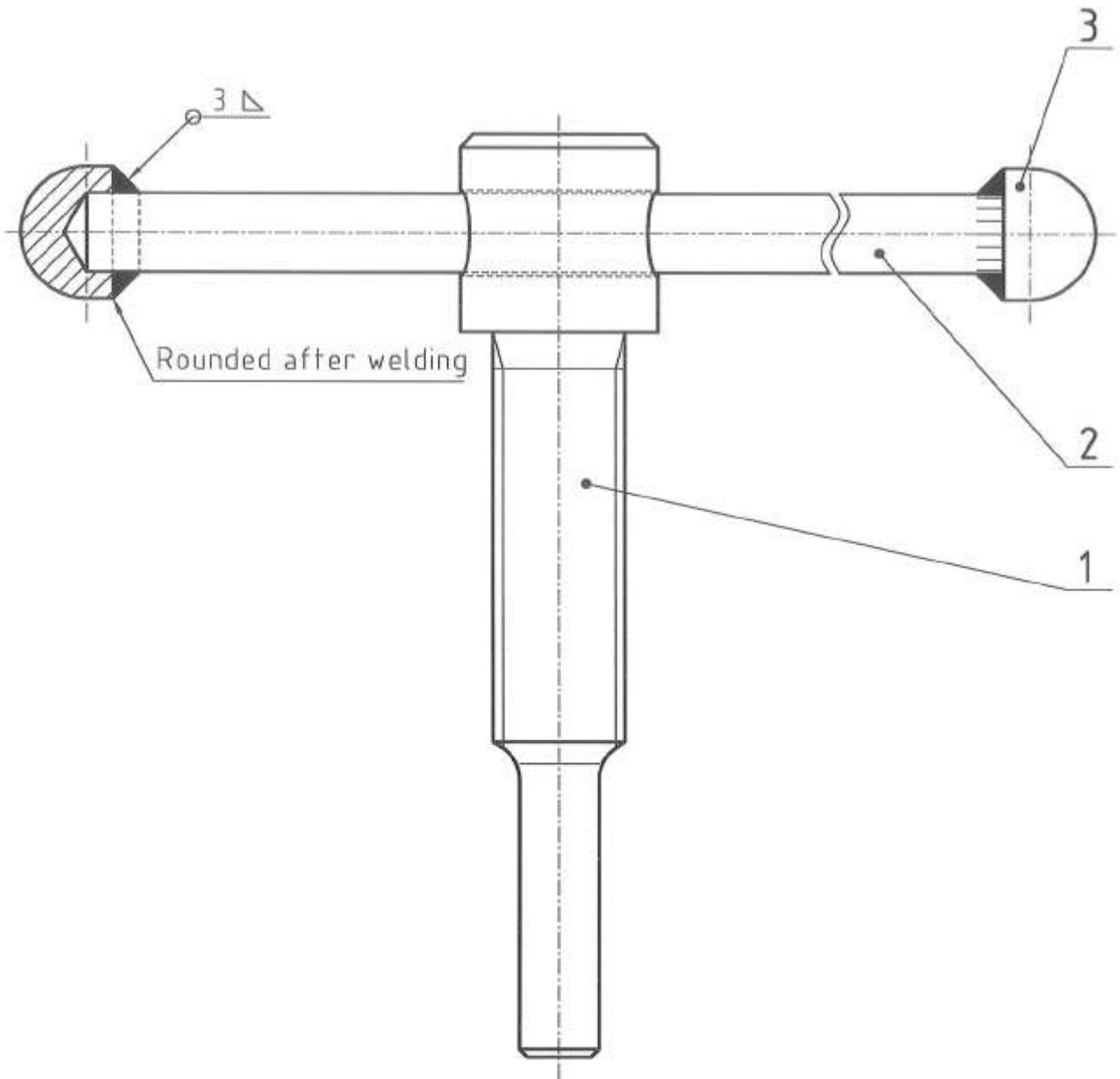
ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED



Handle	Ø8 x 172	E 235	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 26.03.01
	Handle			Checked by:  02.03.07
			Released by:  07.03.07	
International Handpump Specification				C2413

NOTE: SIMILAR HANDLE AS FOR PIPE VICE A2515

Revision 2-2007



WELDED TO ISO 9692
ELECTROPLATED TO ISO 2081/82

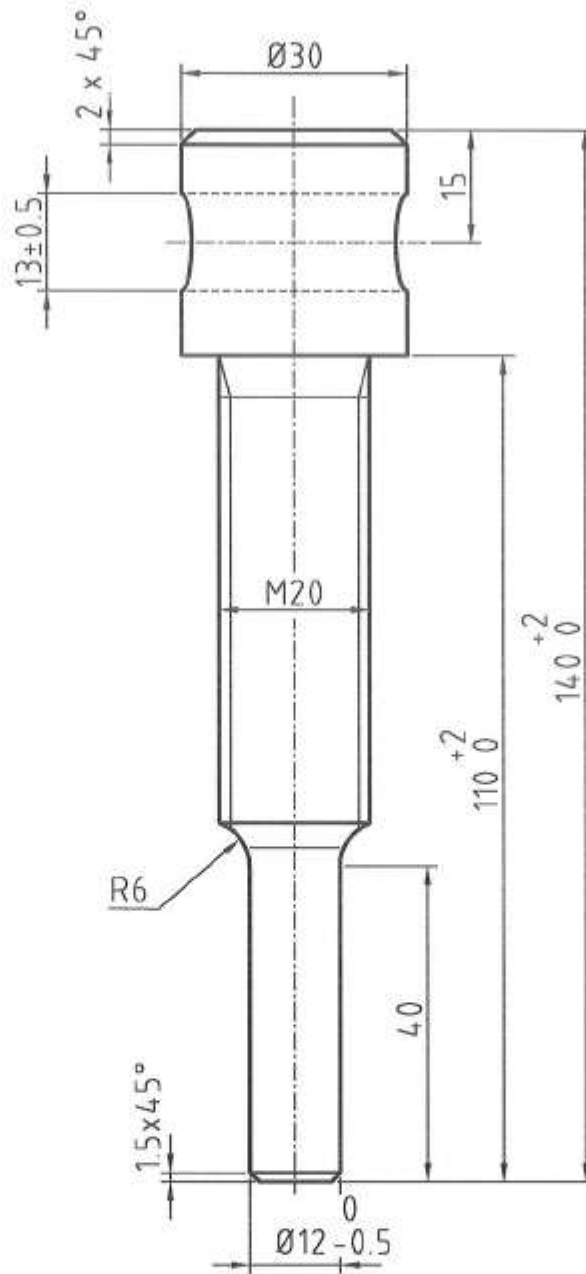


3	2	Handle knob	C2560	---
2	1	Handle bar	C2559	---
1	1	Spindle	C2449	---

Pos.	Qty.	Description	Drawing. No.	Remarks
------	------	-------------	--------------	---------

Rural Water Supply Network 	Sub assembly		Scale: 1 : 1	Drawn by: K. Erpf 06.06.07
	Handle assembly			Checked by: 05.07.07
				Released by: 09.07.07

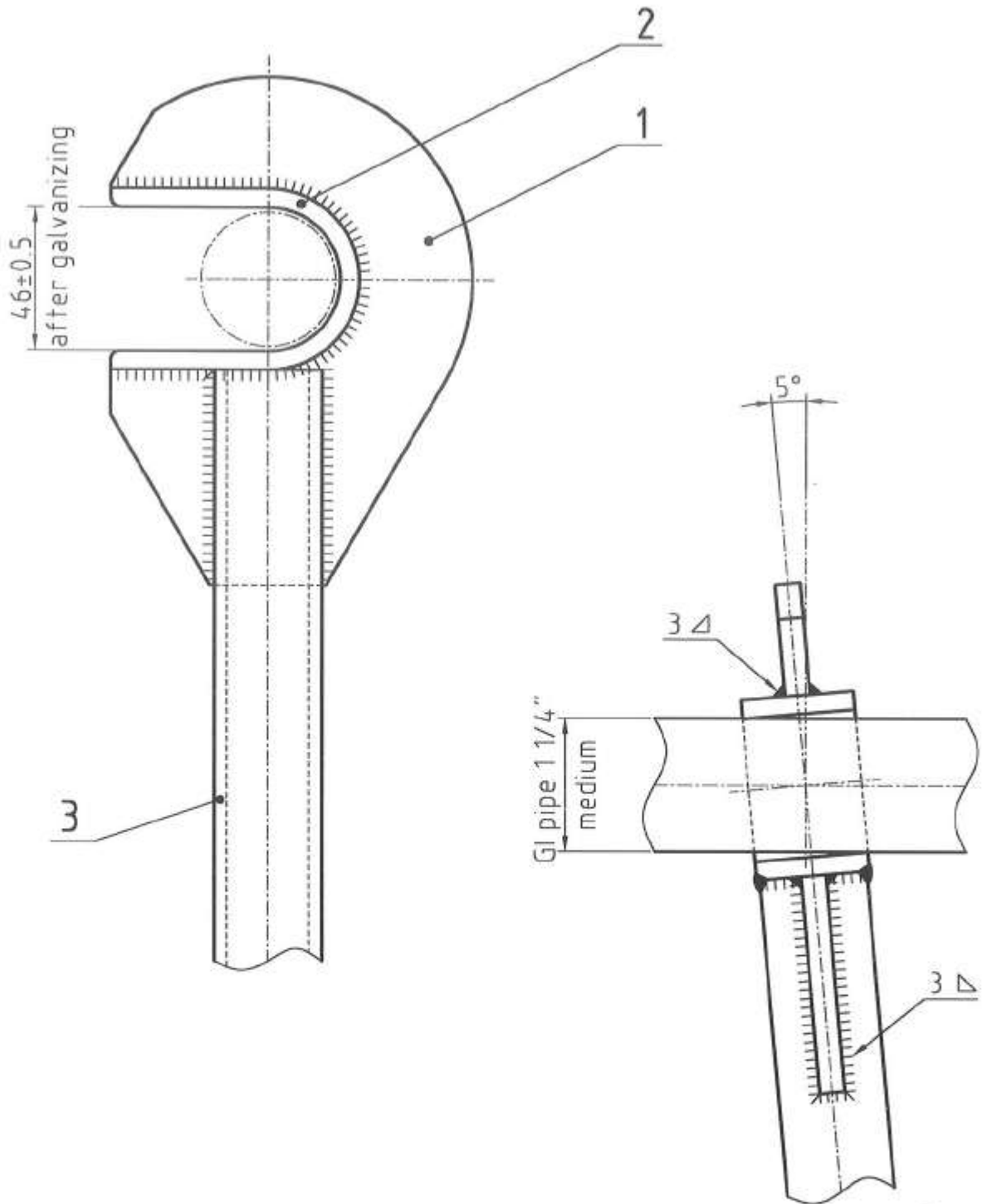
International Handpump Specification		B2448
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ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE ± 0.1 UNLESS OTHERWISE STATED



Spindle	$\text{Ø}30 \times 140$	E 235	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing Spindle	Scale: 1 : 1	Drawn by: K.Erpf 12.06.07	
			Checked by: 05.07.07	
International Handpump Specification			Released by: 09.07.07	
International Handpump Specification				
International Handpump Specification			C2449	

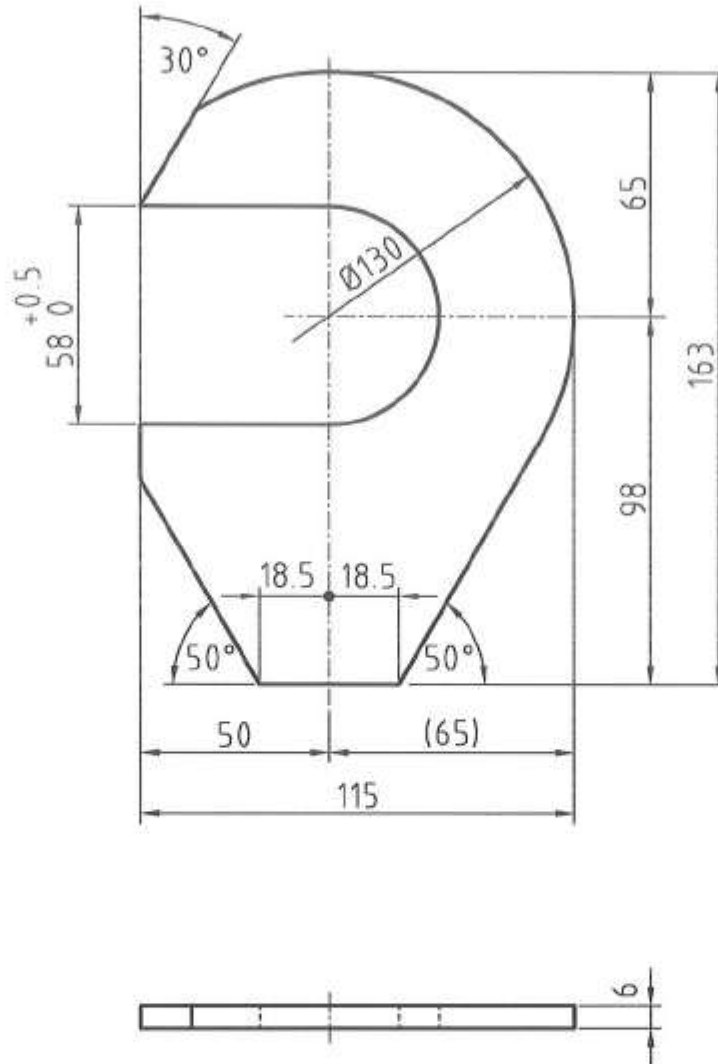


WELDED TO ISO 9692
HOT DIP GALVANIZED TO ISO 1461

(A) (C)

Pos.	Qty.	Description	Drawing. No.	Remarks
3	1	Spanner handle	C2538	for for Lifting spanner 1 1/4" and 2 1/2"
2	1	Gripping plate	C2547	for GI pipe 1 1/4" (India Mark II Pump)
1	1	Hook plate	C2546	for GI pipe 1 1/4" (India Mark II Pump)

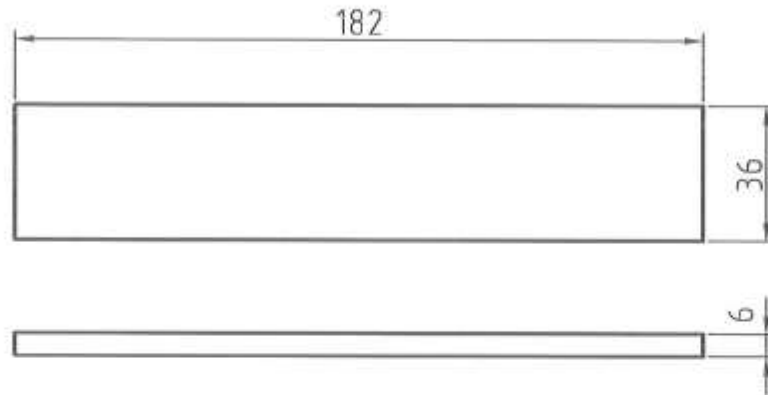
Rural Water Supply Network RWSN	Sub assembly	Scale: 1 : 2	Drawn by: K. Erpf	20.06.07
	Lifting spanner 1 1/4"		Checked by: <i>[Signature]</i>	05.07.07
			Released by: <i>[Signature]</i>	09.07.07
International Handpump Specification			B2545	



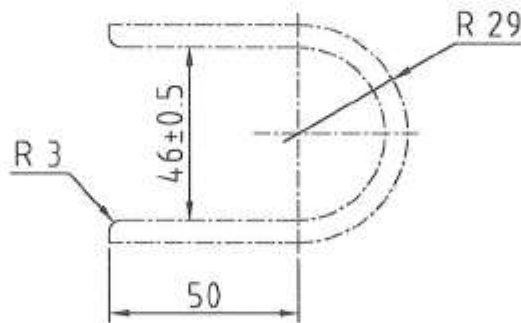
ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 0.1 UNLESS OTHERWISE STATED

(A) (C)

Hook plate	6 x 115 x 163	E 235	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 2	Drawn by: K.Erpf 25.06.07
	Hook plate			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2546



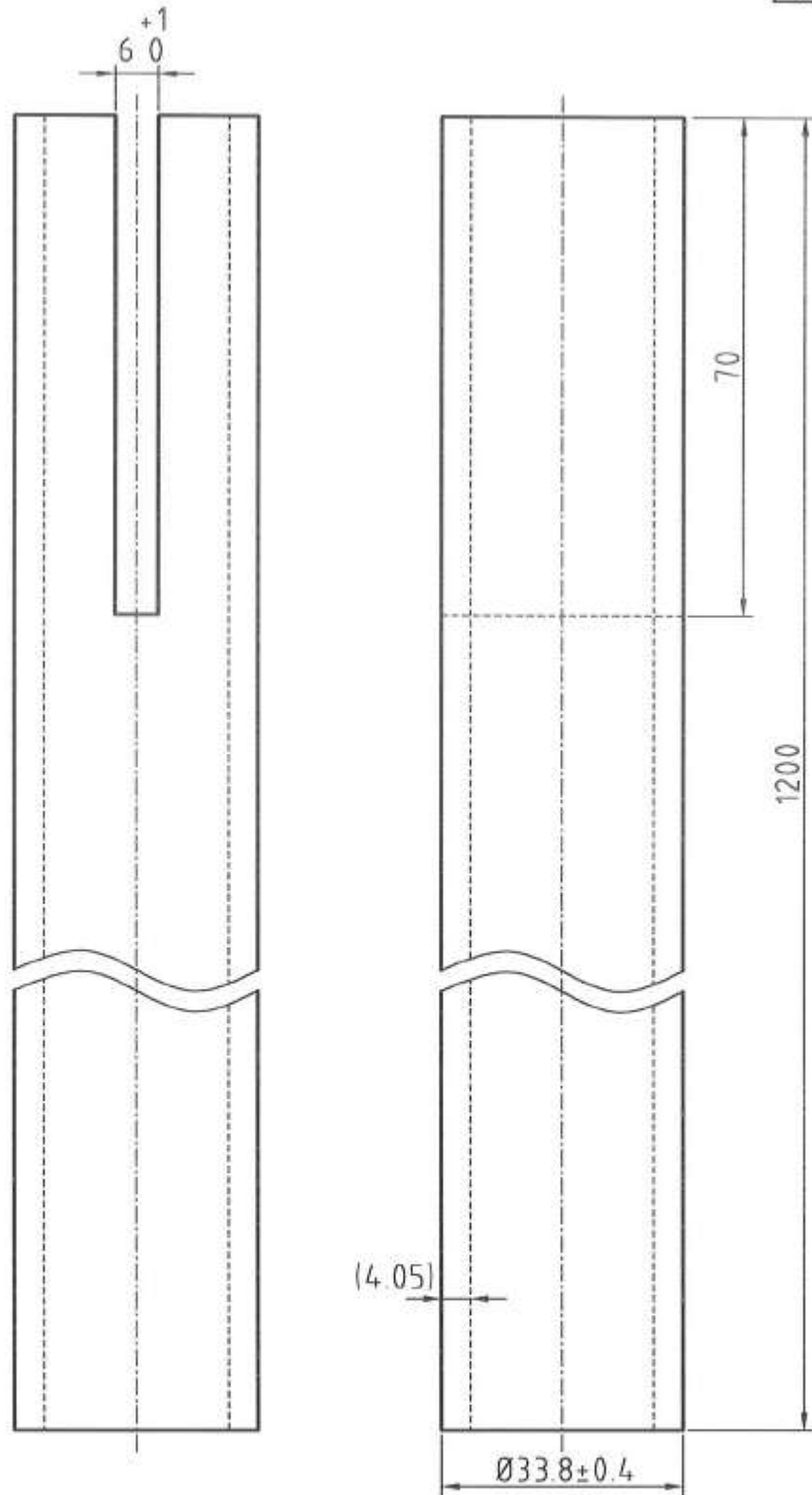
Bending



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 1 UNLESS OTHERWISE STATED

(A) (C)

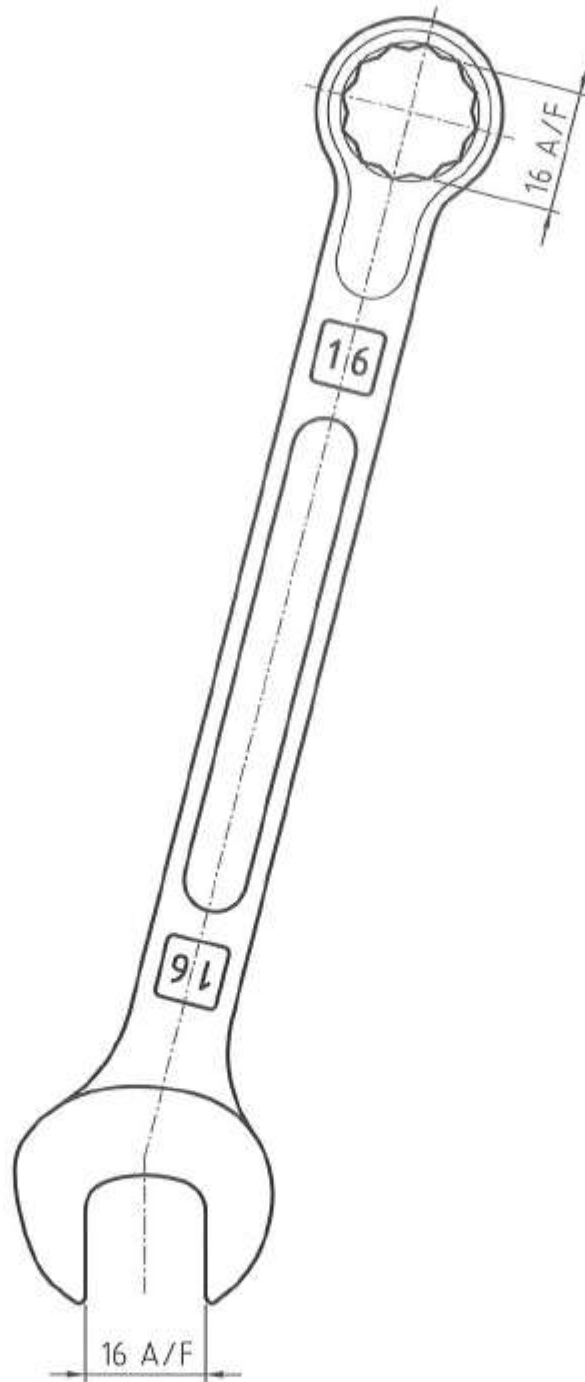
Gripping plate	6 x 36 x 182	E 235	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 2	Drawn by: K.Erpf 25.06.07
	Gripping plate			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2547





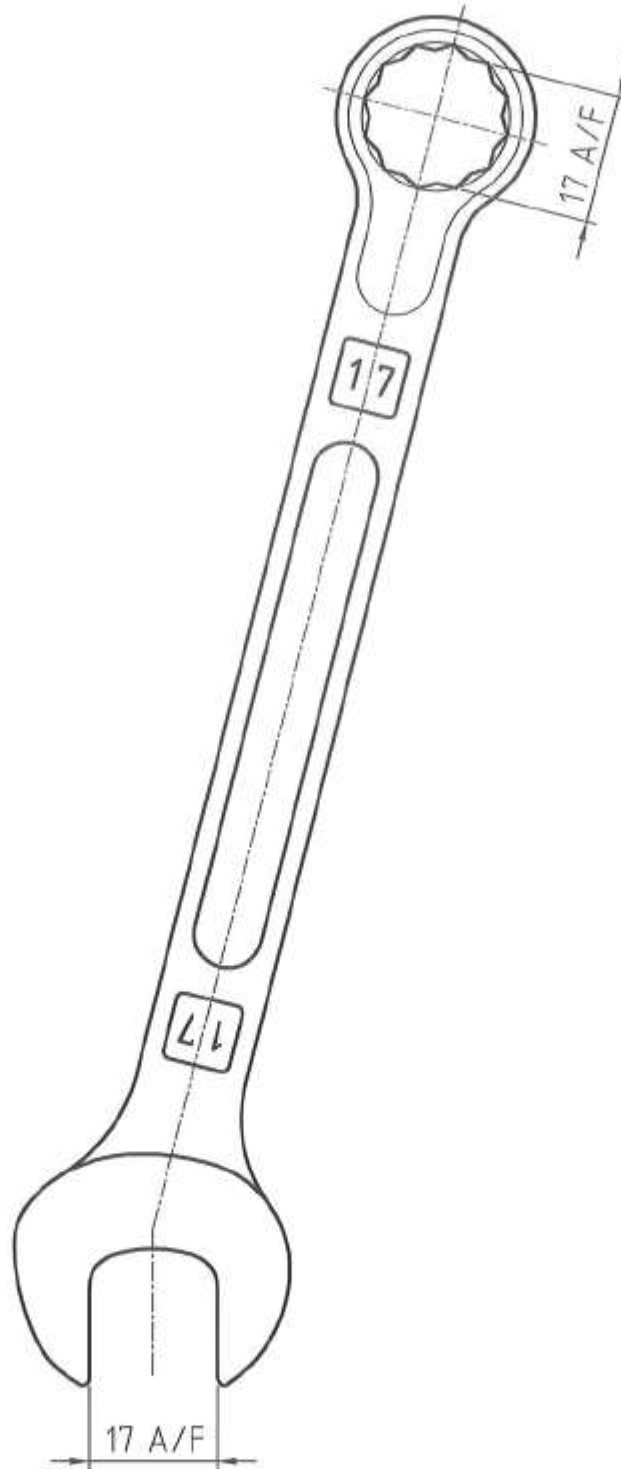
ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/- 1 UNLESS OTHERWISE STATED



(A) (B) (C)

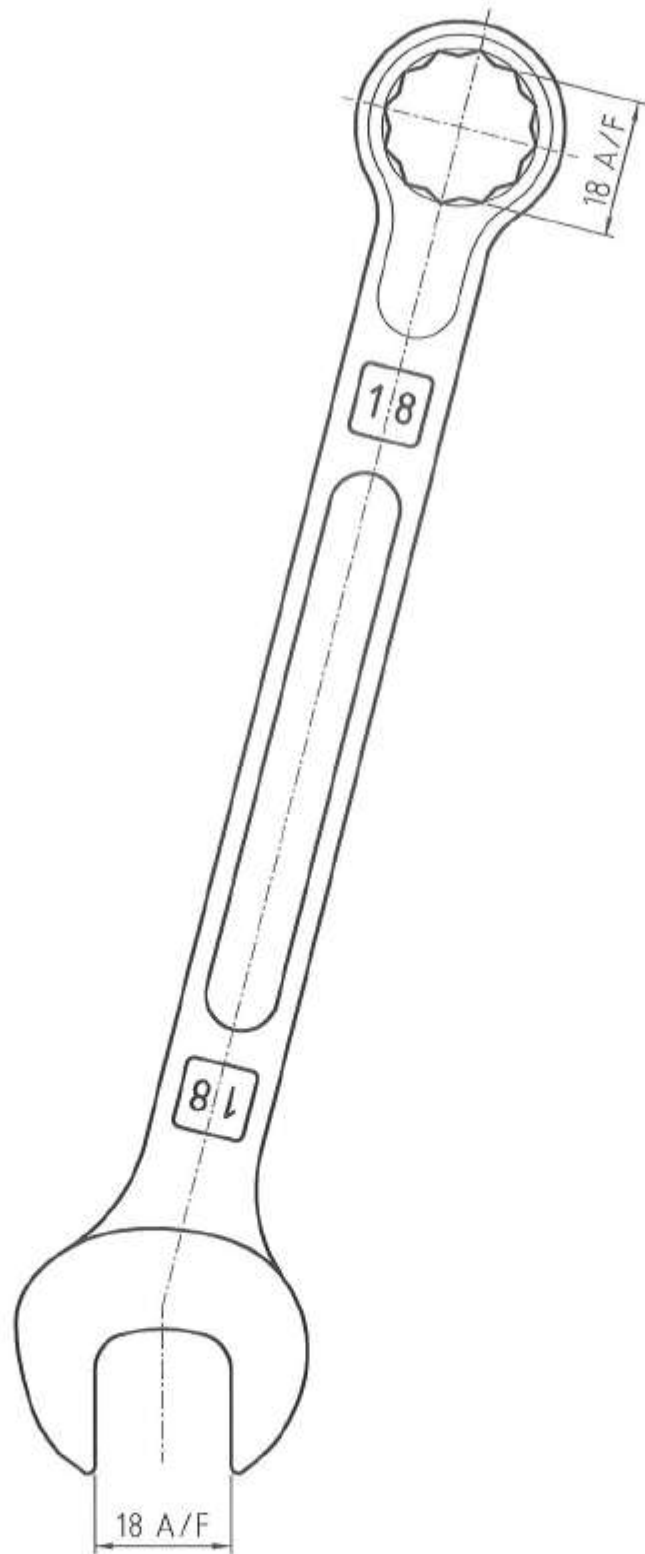
Spanner handle	33.8/4.05 x 1200	ST 320	NB25 (1"), heavy	GI pipe, galvanized
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 25.06.07
	Spanner handle			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2538





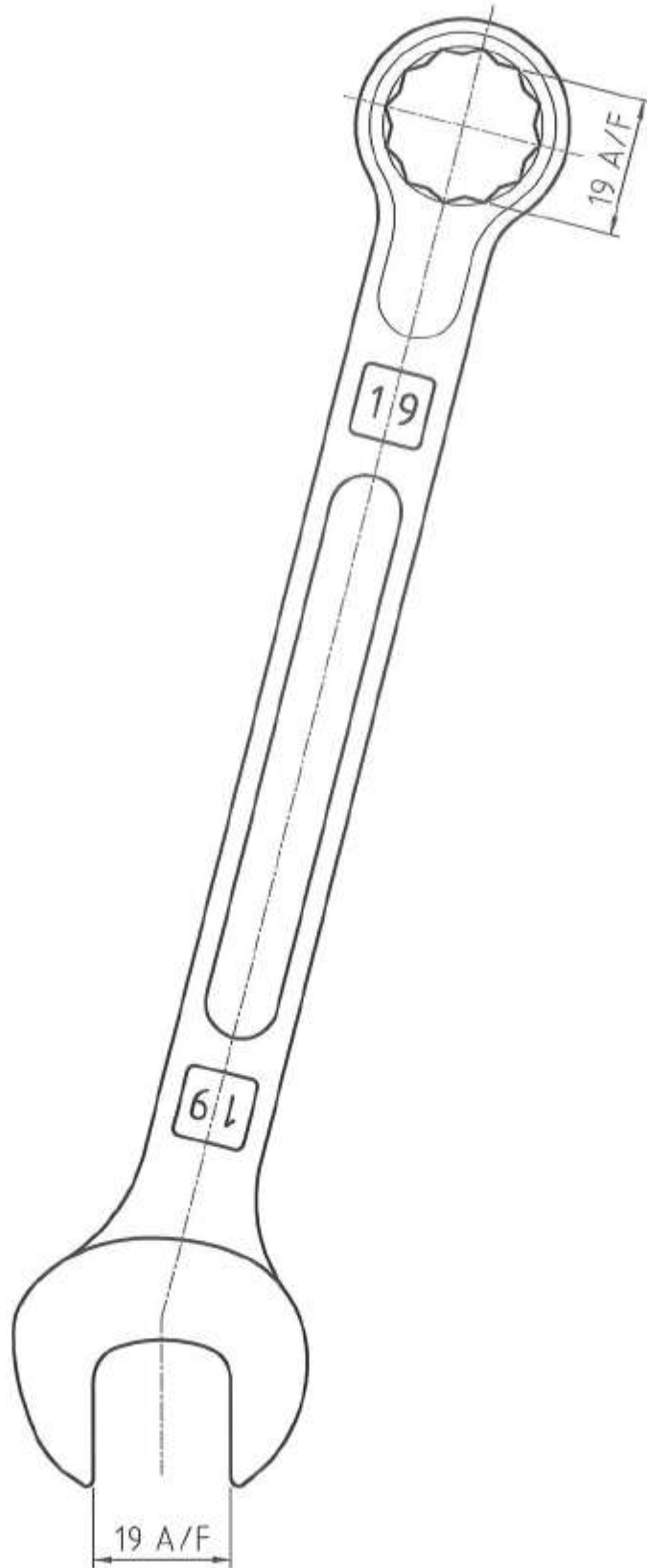
Spanner	16 A/F	Chrome alloy	new Standard	for hex. bolts/nuts M10		
Description	Dimensions	Material	Standards	Remarks		
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by:	K.Erpf	15.08.08
	Spanner			Checked by:		
				Released by:		
International Handpump Specification				C1152		





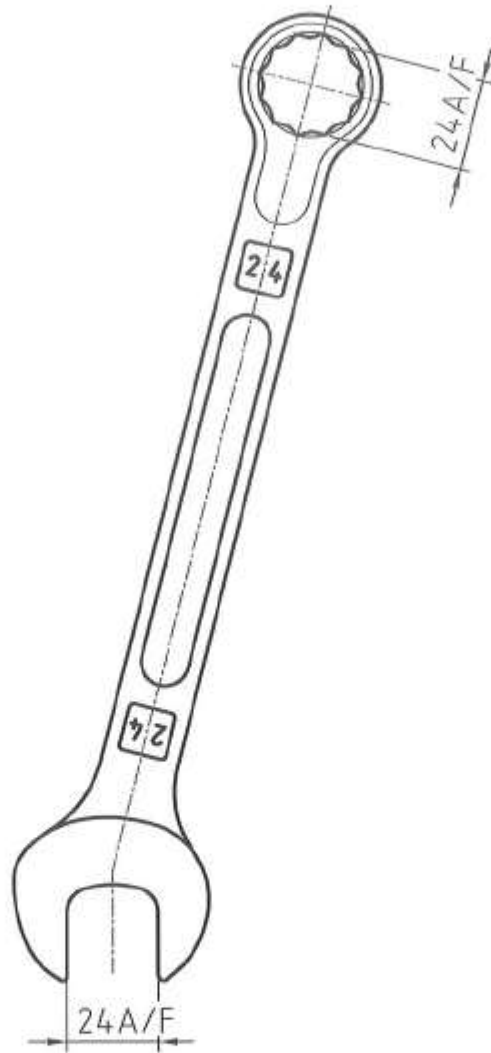
Spanner	17 A/F	Chrome alloy	---	for hex. bolts/nuts M10		
Description	Dimensions	Material	Standards	Remarks		
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by:	K.Erpf	27.11.03
	Spanner			Checked by:		
				Released by:		
International Handpump Specification				C1137		



Spanner	18 A/F	Chrome alloy	new Standard	for hex. bolts/nuts M12		
Description	Dimensions	Material	Standards	Remarks		
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by:	K.Erpf	15.08.08
	Spanner			Checked by:		
				Released by:		
International Handpump Specification				C1153		



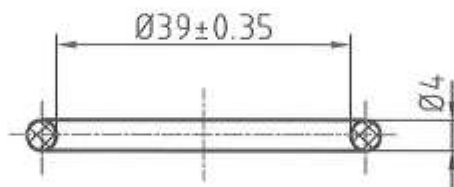
Spanner	19 A/F	Chrome alloy	---	for hex. bolts/nuts M12		
Description	Dimensions	Material	Standards	Remarks		
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by:	K.Erpf	27.11.03
	Spanner			Checked by:		
				Released by:		
International Handpump Specification				C1005		



Spanner	24A/F	Chrome alloy	---	for hex. bolts/nuts M16		
Description	Dimensions	Material	Standards	Remarks		
Rural Water Supply Network RWSN	Detail drawing Spanner		Scale: 1 : 2	Drawn by:	K.Erpf	07.01.99
		Checked by:				
		Released by:				
International Handpump Specification				C1081		

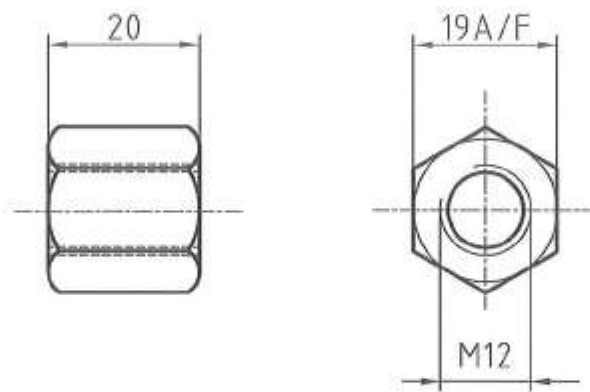
Standard Parts for the

India Mark Handpumps



GENERAL TOLERANCE +/-0.15 UNLESS OTHERWISE STATED

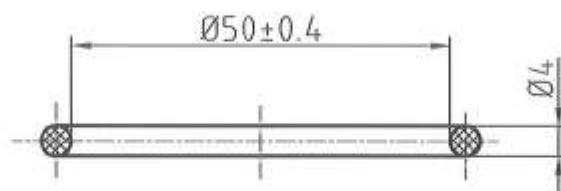
O-Ring	Ø39.0 x 4.0	Nitrile rubber	ISO 3302-1 (M2)	65-75 Shore A		
Description	Dimensions	Material	Standards	Remarks		
Rural Water Supply Network RWSN	Detail drawing O-Ring	(standard size)	Scale: 1:1	Drawn by: t.leder.	15.03.97	
International Handpump Specification					C1011	
				Checked by:		
				Released by:		



GENERAL TOLERANCE ± 0.5 UNLESS OTHERWISE STATED

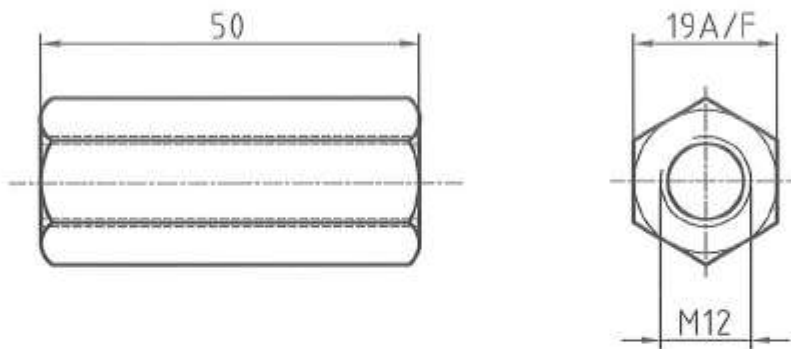
ELECTROPLATED TO ISO 2081/82

Hexagonal coupler	M12 x 20	Free cutting steel	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: t.leder. 15.03.97
	Hexagonal coupler			Checked by:
				Released by:
International Handpump Specification				C1012



GENERAL TOLERANCE ± 0.15 UNLESS OTHERWISE STATED

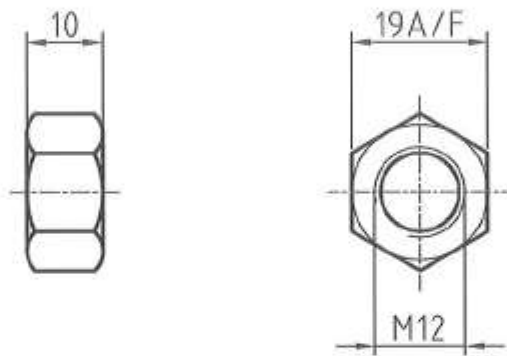
O-Ring	$\text{Ø}50.0 \times 4.0$	Nitrile rubber	ISO 3302-1 (M2)	65-75 Shore A		
Description	Dimensions	Material	Standards	Remarks		
Rural Water Supply Network RWSN	Detail drawing O-Ring	(standard size)	Scale: 1 : 1	Drawn by: f.leder.	15.03.97	
				Checked by:		
				Released by:		
International Handpump Specification				C1014		



GENERAL TOLERANCE +/-0.5 UNLESS OTHERWISE STATED

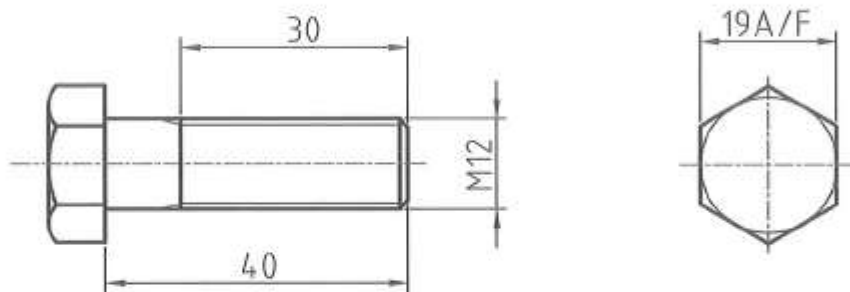
ELECTROPLATED TO ISO 2081/82

Hexagonal coupler	M12 x 50	Free cutting steel	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale:	Drawn by: t.leder. 15.03.97
	Hexagonal coupler		1 : 1	Checked by:
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International Handpump Specification				C1015



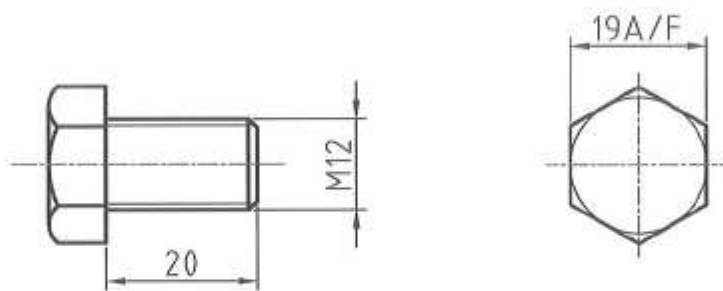
ELECTROPLATED TO ISO 2081/82

Hexagonal nut	M12	Free cutting steel	ISO 4032	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale:	Drawn by: f.leder. 15.03.97
	Hexagonal nut		1 : 1	Checked by:
				Released by:
International Handpump Specification				C1016





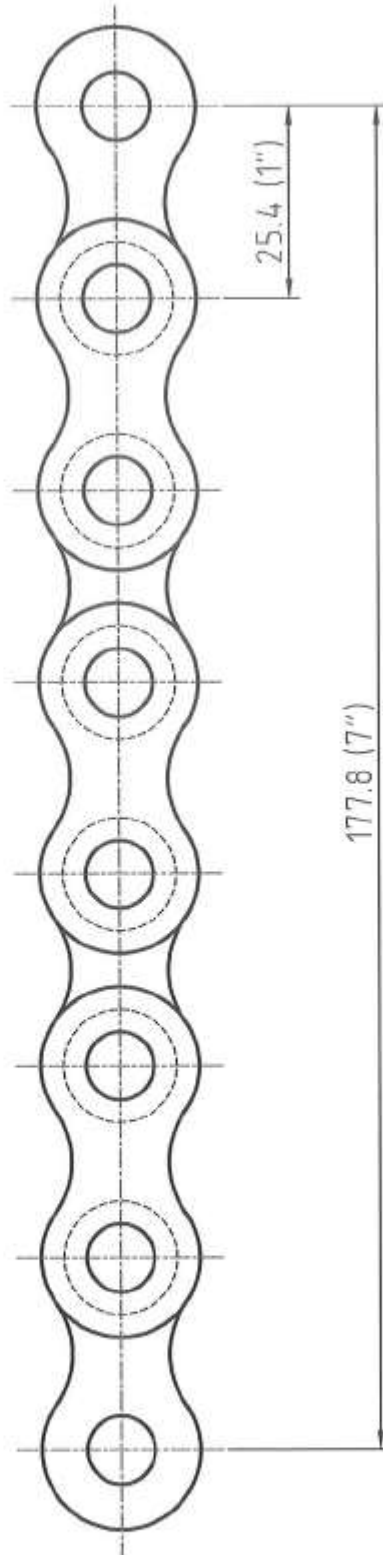
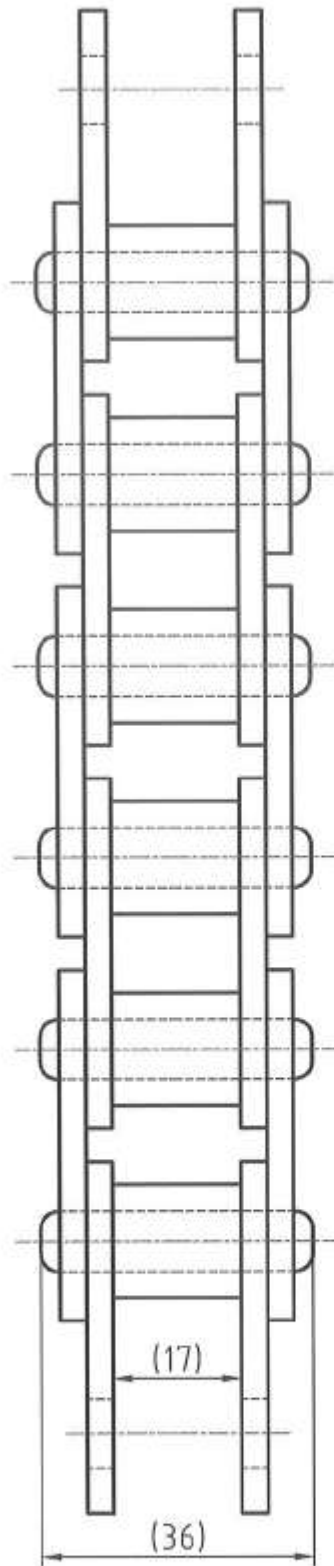
ELECTROPLATED TO ISO 2081/82

Hexagonal bolt	M12 x 40	Class 8.8	ISO 4014 (4017)	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Hexagonal bolt		Scale: 1 : 1	Drawn by: f.leder. 15.03.97 Checked by: Released by:
International Handpump Specification				C1017

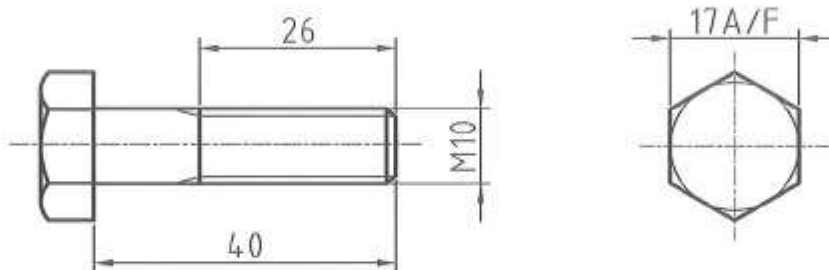


ELECTROPLATED TO ISO 2081/82

Hexagonal bolt	M12 x 20	Class 8.8	ISO 4017	---		
Description	Dimensions	Material	Standards	Remarks		
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by:	t.leder.	15.03.97
	Hexagonal bolt			Checked by:		
				Released by:		
International Handpump Specification				C1030		

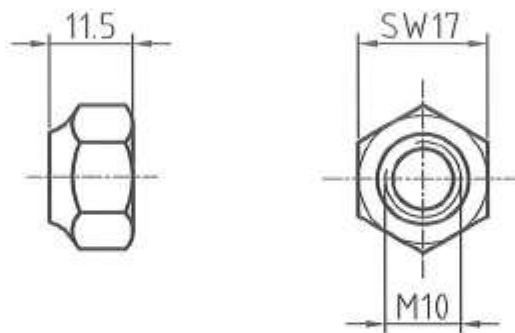


Chain	25.4 pitch	---	ISO 4348	ISO Chain No. 16-B									
Description	Dimensions	Material	Standards	Remarks									
Rural Water Supply Network RWSN	Detail drawing Chain	(1" pitch)	Scale: 1 : 1	<table border="1"> <tr> <td>Drawn by:</td> <td>f.leder.</td> <td>15.03.97</td> </tr> <tr> <td>Checked by:</td> <td></td> <td></td> </tr> <tr> <td>Released by:</td> <td></td> <td></td> </tr> </table>	Drawn by:	f.leder.	15.03.97	Checked by:			Released by:		
Drawn by:	f.leder.	15.03.97											
Checked by:													
Released by:													
International Handpump Specification				C1032									





ELECTROPLATED TO ISO 2081/82

Hexagonal bolt	M10 x 40	Class 8.8	ISO 4014	---		
Description	Dimensions	Material	Standards	Remarks		
Rural Water Supply Network RWSN	Detail drawing Hexagonal bolt		Scale: 1 : 1	Drawn by: t.leder.	15.03.97	
International Handpump Specification				Checked by:		
				Released by:		
				C1033		



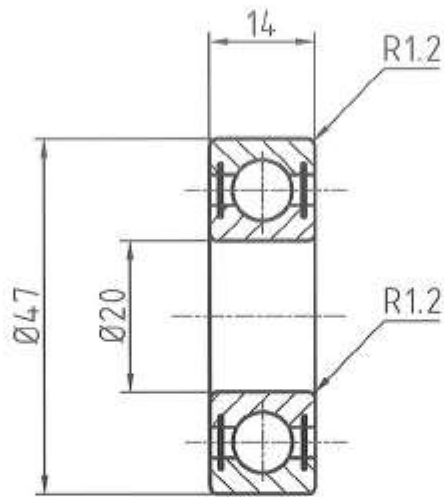
ELECTROPLATED TO ISO 2081/82

PREVAILING TORQUE TYPE STEEL HEXAGONAL LOCK NUT WITH POLYAMIDE RING

Hex. lock nut	for M10	Steel and Polyamide	ISO 7040	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: t.leder. 15.03.97
	Hex. lock nut			Checked by:
				Released by:
International Handpump Specification				C1034

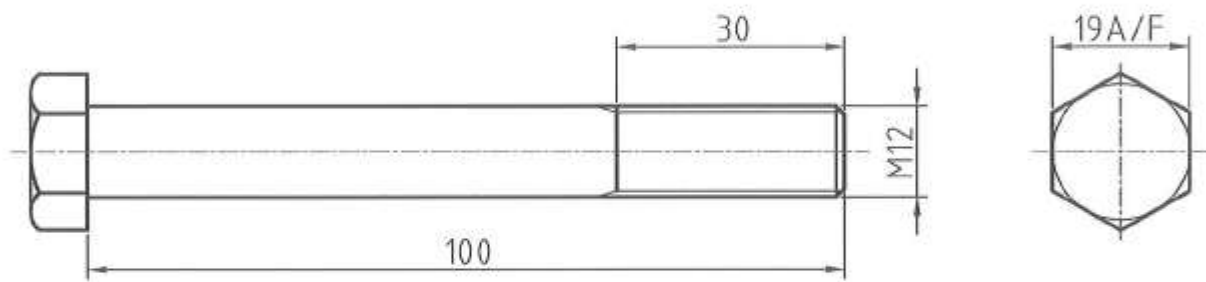


NOTE: THIS BALL BEARING IS ALSO AVAILABLE FROM TOYOTA MOTORS
 INDICATION: TOYOTA KOYO UK 6204 RS
 SPARE PART NO.: 97140-06204





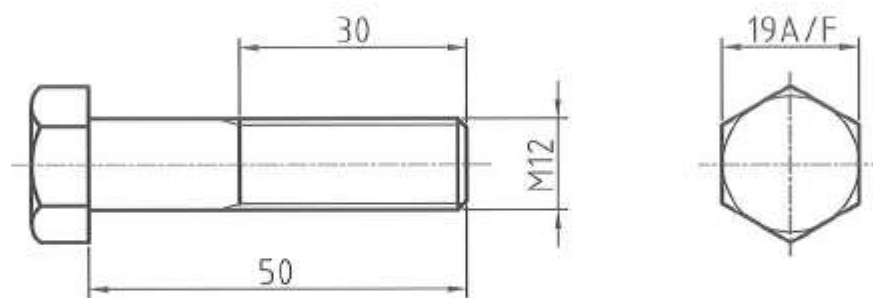
DOUBLE SHIELDED

Ball bearing	Ø47/20 x 14	---	ISO 15	Serie 02 *
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Ball bearing		Scale: 1 : 1	Drawn by: K.Erpf 19.12.00 Checked by: Released by:
International Handpump Specification				C1035



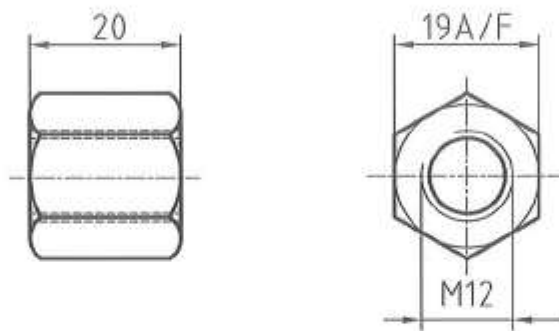
ELECTROPLATED TO ISO 2081/82

Hexagonal bolt	M12 x 100	Class 8.8	ISO 4014	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale:	Drawn by: t.leder. 15.03.97
	Hexagonal bolt		1 : 1	Checked by:
				Released by:
International Handpump Specification				C1036




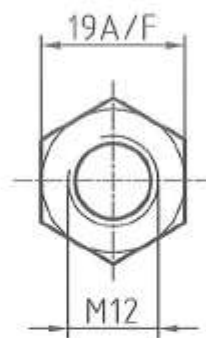
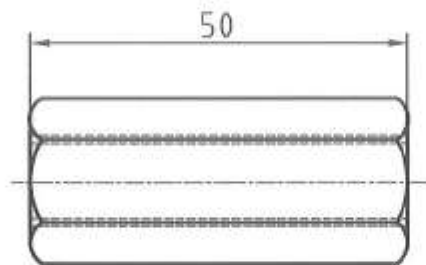
ELECTROPLATED TO ISO 2081/82

Hexagonal bolt	M12 x 50	Class 8.8	ISO 4014	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Hexagonal bolt		Scale: 1 : 1	Drawn by: K. Erpf 05.11.97 Checked by: Released by:
International Handpump Specification				C1049



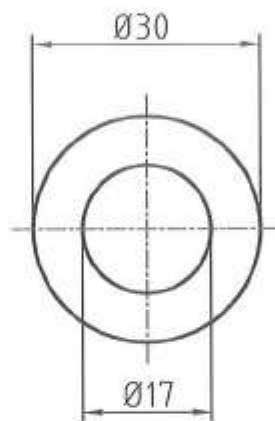
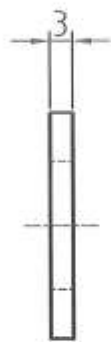
GENERAL TOLERANCE +/-0.5 UNLESS OTHERWISE STATED

Hexagonal coupler	M12 x 20	Stainless steel	---	X5CrNi 18-9
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale:	Drawn by: K. Erpf 15.12.97
	Hexagonal coupler		1 : 1	Checked by:
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International Handpump Specification				C1053

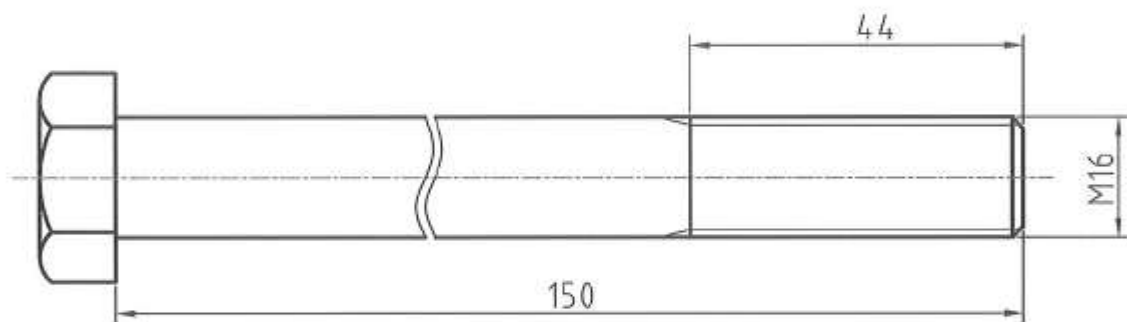
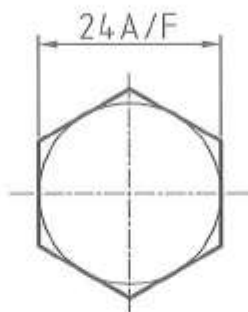


GENERAL TOLERANCE +/-0.5 UNLESS OTHERWISE STATED

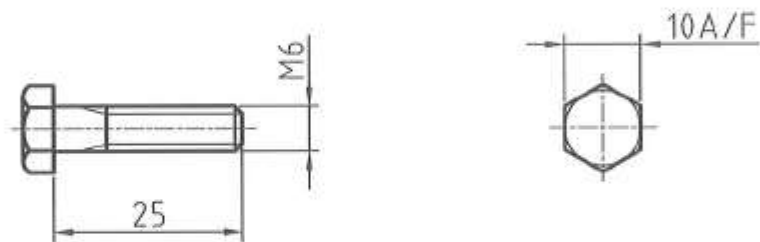
Hexagonal coupler	M12 x 50	Stainless steel	---	X5CrNi 18-9
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: K. Erpf 15.12.97
	Hexagonal coupler			Checked by:
				Released by:
International Handpump Specification				C1055



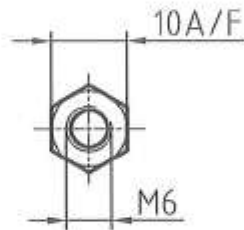
Washer	$\varnothing 30/17 \times 3$	Brass	ISO 7089	for M16		
Description	Dimensions	Material	Standards	Remarks		
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by:	K.Erpf	08.07.98
	Washer			Checked by:		
				Released by:		
International Handpump Specification				C1069		



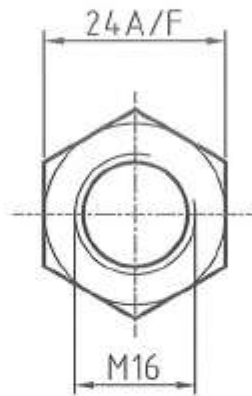
Hexagonal bolt	M16 x 150	Stainless Steel	ISO 4014	X5CrNi 18-9
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Hexagonal bolt		Scale: 1 : 1	Drawn by: K.Erpf 14.03.01 Checked by: Released by:
International Handpump Specification				C1114



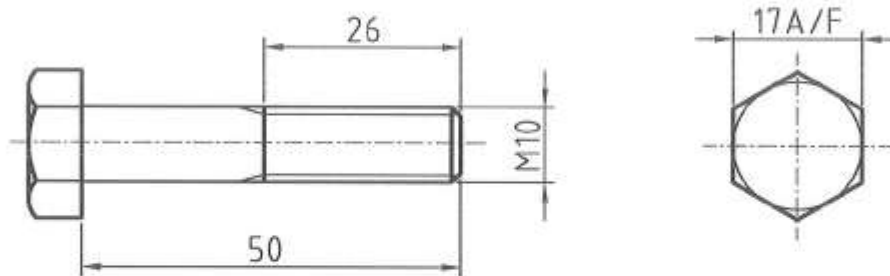
Hexagonal bolt	M6 x 25	Stainless steel	ISO 4014	X5CrNi 18-9
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Hexagonal bolt		Scale: 1 : 1	Drawn by: K. Erpf 16.07.01 Checked by: Released by:
International Handpump Specification				C1120





Hexagonal nut	for M6	Stainless steel	ISO 4032	X5CrNi 18-9		
Description	Dimensions	Material	Standards	Remarks		
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by:	K.Erpf	16.07.01
	Hexagonal nut			Checked by:		
				Released by:		
International Handpump Specification				C1121		

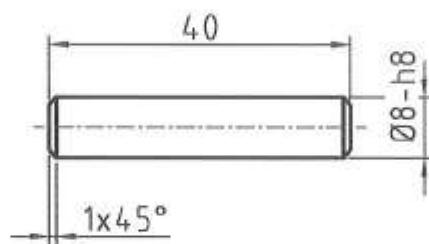


Hexagonal nut	for M16	Brass	ISO 4032	---		
Description	Dimensions	Material	Standards	Remarks		
<small>Rural Water Supply Network</small> 	Detail drawing		Scale: 1 : 1	Drawn by:	K.Erpf	19.12.01
	Hexagonal nut			Checked by:		
				Released by:		
International Handpump Specification				C1130		



ELECTROPLATED TO ISO 2081/82

Hexagonal bolt	M10 x 50	Class 8.8	ISO 4014	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale:	Drawn by: K.Erpf 11.06.07
	Hexagonal bolt		1 : 1	Checked by:
				Released by:
International Handpump Specification				C1150



GENERAL TOLERANCE ± 0.5 UNLESS OTHERWISE STATED

Dowel pin	$\text{Ø}8 \times 40$	Tool steel	(ISO 2338)	hardened
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 11.06.07
	Dowel pin			Checked by:
				Released by:
International Handpump Specification				C1151

Parts List for the

India Mark II Handpump

Partslist for the India Mark II Handpump with Options. (Revision 2-2007)

Part No	Qty	Description	Dimension	Material	Standard	Remarks
D9096	1	Pump assembly	none	none	none	none
D9191	1	Pump assembly	none	none	none	none
A2339	1	Top part arrangement	none	none	none	pre-assembled
A2303	1	Head arrangement	none	none	none	pre-assembled
B2304	1	Head assembly	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2306	1	Back plate	4 x 98 x 628	E235	ISO 630	machined / bent
C2313	2	Side plate	4 x 345 x 386	E235	ISO 630	machined
C2314	1	Axle bush left	Ø45 x 32	E355	ISO 630	machined
C2316	1	Axle bush right	Ø45 x 25	E355	ISO 630	machined
C2317	1	Bottom end plate	4 x 40 x 90	E235	ISO 630	machined
C2318	1	Top end plate	4 x 80 x 90	E235	ISO 630	machined
C2319	1	Flange	6 x 190 x 250	E235	ISO 630	machined
B2307	1	Bracket assembly	none	none	none	welded to ISO 9692,
C2308	2	Bracket plate	4 x 35 x 151	E235	ISO 630	machined
C2309	1	Bottom plate	4 x 35 x 45.5	E235	ISO 630	machined
C2310	1	Top plate	4 x 46 x 45.5	E235	ISO 630	machined
C2312	2	Filler rod	Ø12 x 50	E185	ISO 630	machined
B2320	1	Front cover assembly	none	none	none	welded to ISO 9692,
C2321	1	Front cover plate	2 x 272 x 450	E235	ISO 630	machined / bent
A2325	1	Handle arrangement	none	none	none	pre-assembled
B2326	1	Handle assembly	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2327	1	Bearing housing	Ø70 x 50	E235	ISO 630	machined
C2328	1	Chain guide	12/12 x 228	E235	ISO 630	machined / bent
C2329	1	Handle bar	32/32 x 1170	E235	ISO 630	machined
B2346	1	Chain assembly	none	none	none	welded to ISO 9692, machined
C2330	1	Chain coupling	Ø50 x 30	E355	ISO 630	machined, electroplated to ISO 2081/82,
C2332	1	Spacer	Ø35/20.2 x 21	E235	ISO 630	machined, electroplated to ISO 2081/82,
C2333	1	Handle axle	Ø25 x 147	Stainless Steel	ISO 15510	machined, X5CrNi 18-9, bright
C2334	1	Axle washer	Ø30/13 x 4	E235	ISO 630	machined, electroplated to ISO 2081/82,
B2335	1	Third plate assembly	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2336	1	Flange	6 x 190 x 250	E235	ISO 630	machined
C2337	1	Guide bush	Ø30 x 40	E355	ISO 630	machined
B2340	1	Water tank assembly	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2341	1	Flange	6 x 190 x 230	E235	ISO 630	machined
C2342	1	Riser pipe holder	Ø55 x 50	E235	ISO 630	machined
C2343	1	Tank pipe	Ø165.1/4.85 x 154	ST 320	ISO 630 (ISO 559)	machined (6" pipe, NB150, medium)

Part No	Qty	Description	Dimension	Material	Standard	Remarks
C2344	1	Flange	6 x 190 x 250	E235	ISO 630	machined
C2269	2	Gusset	6 x 30 x 30	E235	ISO 630	machined
C2345	4	Gusset	6 x 40 x 40	E235	ISO 630	machined
B2367	1	Spout assembly	none	none	none	welded to ISO 9692,
C2368	1	Spout pipe	Ø48.4/3.25 x 280	ST 320	ISO 630 (ISO 559)	machined (1 1/2" pipe, NB40, medium)
C2369	1	Spout end	Ø48.4/3.25 x 130	ST 320	ISO 630 (ISO 559)	machined (1 1/2" pipe, NB40, medium)
B2348	1	Stand assembly NB150	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2292	1	Stand pipe	Ø165.1/4.85 x 605	ST 320	ISO 630 (ISO 559)	machined (6" pipe, NB150, medium)
C2053	1	Flange	6 x 190 x 230	E235	ISO 630	machined
C2054	3	Leg	EA 40x40x6-530	E235	ISO 657-1	machined, welded to ISO 9692,
C2052	2	Gusset	6 x 22 x 22	E235	ISO 630	machined
B2221	1	Stand assembly	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2056	1	Stand pipe	Ø185/4 x 526	E235	ISO 630	machined, rolled, welded
C2068	1	Bottom flange	8 x 300 x 300	E235	ISO 630	machined
C2058	4	Gusset	6 x 50 x 100	E235	ISO 630	machined
C2059	1	Gasket	5 x 300 x 300	Nitrile Rubber	ISO 3302-1 (M3)	moulded / 60-70 Shore A
B2083	1	Anchor assembly	none	none	none	welded to ISO 9692,
C2084	8	Fixing rod	Ø8 x 300	E185	ISO 630	machined
A2350	1	Cylinder assembly	none	none	none	none
C2351	1	Cylinder	Ø82 x 304	GG20	ISO 185	cast, machined
C2352	1	Brass liner	Ø65.3/0.9 x 310	Copper-zinc alloy	ISO 426-1	CuZn37 (CuZn20Al2 or CuZn28Sn1)
C2353	2	Reducer cap	Ø90 x 80	GG20	ISO 185	cast, machined
C2354	3	Sealing ring	Ø78/67 x 4	Nitrile Rubber	ISO 3302-1 (M2)	moulded / 70-80 Shore A
C2365	X	Riser pipe	Ø42.4/3.25 x 3000	ST 320	ISO 630 (ISO 559)	NB32, medium, hot dip galvanized GI pipe (1 1/4")
C2366	X	Socket	Ø48 x 48	ST 320	ISO 630 (ISO 559)	for hot dip galvanized GI pipe (1 1/4")
A2349	1	Plunger assembly	none	none	none	pre-assembled
C2355	1	Plunger body	Ø49 x 53.5	Copper-zinc alloy	ISO 426-2	cast, machined, CuZn38Pb4
C2356	1	Follower	Ø60 x 52.5	Copper-zinc alloy	ISO 426-2	machined, CuZn38Pb4
C2357	1	Spacer	Ø60 x 29	Copper-zinc alloy	ISO 426-2	machined, CuZn38Pb4
C2358	1	Upper valve	Ø33 x 40	Copper-zinc alloy	ISO 426-2	cast, machined, CuZn38Pb4
C2359	2	Cup seal	Ø63.5 x 14	Nitrile Rubber	ISO 3302-1 (M2)	moulded / 75-85 Shore A
C2360	1	Rubber seating	Ø32/19 x 4	Nitrile Rubber	ISO 3302-1 (M2)	moulded / 70-80 Shore A
A2423	1	Check valve assembly	none	none	none	pre-assembled
C2361	1	Check valve	Ø41 x 49	Copper-zinc alloy	ISO 426-2	cast, machined, CuZn38Pb4
C2362	1	Check valve seat	Ø77 x 14	Copper-zinc alloy	ISO 426-2	machined, CuZn38Pb4
C2363	1	Seat retainer	Ø47 x 10	Copper-zinc alloy	ISO 426-2	machined, CuZn38Pb4
C2364	1	Rubber seating	Ø45/10 x 4	Nitrile Rubber	ISO 3302-1 (M2)	moulded / 70-80 Shore A
A2370	1	Pumprod arrangement	none	none	none	Mild Steel (MS)

Part No	Qty	Description	Dimension	Material	Standard	Remarks
B2373	X	Pumprod assembly	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2372	1	Rod	Ø12 x 2990	E235	ISO 630	machined (bright)
B2555	1	Plunger rod assembly	none	none	none	Stainless Steel (SS)
C2556	1	Rod	Ø12 x 500	Stainless Steel	ISO 15510	machined, X5CrNi 18-9, bright
OPTIONS:						
C2331	1	Bearing housing	60 x 60 x 50	E235	ISO 630	machined
B2347	1	Stand assy. NB175/150	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2378	1	Stand pipe	Ø193.7/4.85 x 345	ST 320	ISO 630 (ISO 559)	machined (7" pipe, NB175, light)
C2379	1	Stand pipe	Ø165.1/4.85 x 255	ST 320	ISO 630 (ISO 559)	machined (6" pipe, NB150, medium)
C2295	1	Reducer	Ø195 x 20	E235	ISO 630	machined
A2407	1	Plunger assembly	none	none	none	pre-assembled
C2408	1	Spacer	Ø60 x 22	Copper-zinc alloy	ISO 426-2	machined, CuZn38Pb4
C2409	2	Leather Cup seal	Ø62 x 15	Leather	none	processed, machined
A2380	1	Pumprod arrangement	none	none	none	Stainless Steel (SS)
B2383	1	Pumprod assembly	none	none	none	welded to ISO 9692,
C2382	1	Rod	Ø12 x 2990	Stainless Steel	ISO 15510	machined, X5CrNi 18-9, bright
INSTALLATION AND MAINTENANCE TOOLS						
B2420	1	Connecting tool assembly	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82
C2421	1	Rod	Ø12 x 200	E235	ISO 630	machined
C2422	1	T-bar	Ø12 x 200	E235	ISO 630	machined
A2470	1	Pipe clamp assembly	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82
C2471	2	Clamp	6 x 50 x 313	E235	ISO 630	machined, bent
A2478	1	Bearing mounting assy.	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82
C2479	1	Bearing holder	Ø50 x 38	E355	ISO 630	machined
C2480	1	Pressure plate	Ø50 x 20	E355	ISO 630	machined
C2476	1	Chain support	Ø48.4/4.05 x 60	ST 320	ISO 630 (ISO 559)	machined (1 1/2" pipe, NB40, heavy)
C2477	1	Axle punch	Ø25 x 160	E355	ISO 630	machined
A2515	1	Pipe vice assembly	none	none	none	none
B2516	1	Vice plate assembly	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82
C2517	1	Base plate	12 x 190 x 230	E235	ISO 630	machined
C2518	1	Vice plate	40 x 120 x 257	E235	ISO 630	machined
C2519	1	Fixed jaw, 1 1/4"	40 x 61.5 x 72	Tool Steel	ISO 630	machined, hardened
C2520	1	Clamping jaw, 1 1/4"	40 x 68.5 x 82	Tool Steel	ISO 630	machined, hardened
C2523	1	Side plate	6 x 35 x 70	Tool Steel	ISO 630	machined, hardened
C2524	1	Guide	24 x 40 x 65	Tool Steel	ISO 630	machined, hardened

Part No	Qty	Description	Dimension	Material	Standard	Remarks
B2557	1	Handle assembly	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82
C2558	1	Spindle	Ø30 x 140	E235	ISO 630	machined
C2559	1	Handle bar	Ø12 x 180	E235	ISO 630	machined
C2560	3	Handle knob	Ø20 x 14	E235	ISO 630	machined
A2443	1	Pumprod vice assembly	none	none	none	none
B2444	1	Vice flange assembly	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82
C2445	1	Flange	6 x 190 x 230	E235	ISO 630	machined
C2446	1	Pressure piece	40 x 50 x 50	E235	ISO 630	machined
C2447	1	Thread piece	30 x 40 x 50	E235	ISO 630	machined
C2413	2	Handle	Ø8 x 172	E235	ISO 630	machined, bent
B2448	1	Handle assembly	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82
C2449	1	Spindle	Ø30 x 140	E235	ISO 630	machined
B2545	1	Lifting spanner, 1 1/4"	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461
C2546	1	Hook plate	6 x 115 x 163	E235	ISO 630	machined
C2547	1	Gripping plate	6 x 36 x 182	E235	ISO 630	machined
C2538	1	Spanner handle	33.8/4.05 x 1200	ST 320	NB25 (1"), heavy	GI pipe, hot dip galvanized
C1005	2	Spanner (New Standard)	16 A/F	Chrome alloy	none	for hex. bolts & nuts of M10 (New ISO Standard)
C1137	2	Spanner	17 A/F	Chrome alloy	none	for hexagonal bolts and nuts of M10
C1137	2	Spanner (New Standard)	18 A/F	Chrome alloy	none	for hex. bolts & nuts of M12 (New ISO Standard)
C1005	2	Spanner	19 A/F	Chrome alloy	none	for hexagonal bolts and nuts of M12
C1081	2	Spanner	24 A/F	Chrome alloy	none	for hexagonal bolts and nuts of M16
STANDARD PARTS:						
C1011	1	O-Ring	Ø39.0 x 4.0	Nitrile Rubber	ISO 3601/1	moulded / 65-75 Shore A, (standard size)
C1012	X	Hexagonal coupler	M12 x 20	Class 8.8	ISO 4032	none
C1015	X	Hexagonal coupler	M12 x 50	Class 8.8	ISO 4032	none
C1016	23	Hexagonal nut	M12	Class 8.8	ISO 4032	none
C1017	10	Hexagonal bolt	M12 x 40	Class 8.8	ISO 4014/4017	none
C1030	1	Hexagonal bolt	M12 x 20	Class 8.8	ISO 4017	none
C1032	1	Chain	25.4 (1") Pitch	Spring Steel	ISO 4348	ISO Chain No. 16-B
C1033	1	Hexagonal bolt	M10 x 40	Class 8.8	ISO 4014/4017	none
C1034	1	Hexagonal lock nut	M10	Steel/Polyamide	ISO 7040	none
C1035	2	Ball bearing	Ø47/20 x 14	6204-2Z	ISO 15	(Toyota Koyo UK 6204 RS)
C1036	1	Hexagonal bolt	M12 x 100	Class 8.8	ISO 4014	none
C1053	X	Hexagonal coupler	M12 x 20	Stainless Steel	ISO 4032	X5CrNi 18-9
C1055	X	Hexagonal coupler	M12 x 50	Stainless Steel	ISO 4032	X5CrNi 18-9
C1069	4	Washer (M16)	Ø30/17 x 3	Brass	ISO 7089	none
C1114	4	Hexagonal bolt	M16 x 150	Stainless Steel	ISO 4014	X5CrNi 18-9

Part No	Qty	Description	Dimension	Material	Standard	Remarks
C1120	1	Hexagonal bolt	M6 x 25	Stainless Steel	ISO 4014/4017	X5CrNi 18-9
C1121	1	Hexagonal nut	M6	Stainless Steel	ISO 4032	X5CrNi 18-9
C1130	4	Hexagonal nut	M16	Brass	ISO 7089	none
C1150	4	Hexagonal bolt	M10 x 50	Class 8.8	ISO 4017	none
C1151	3	Dowel pin	Ø8 x 40	Tool Steel	ISO 2338	hardened

International Standards used for the

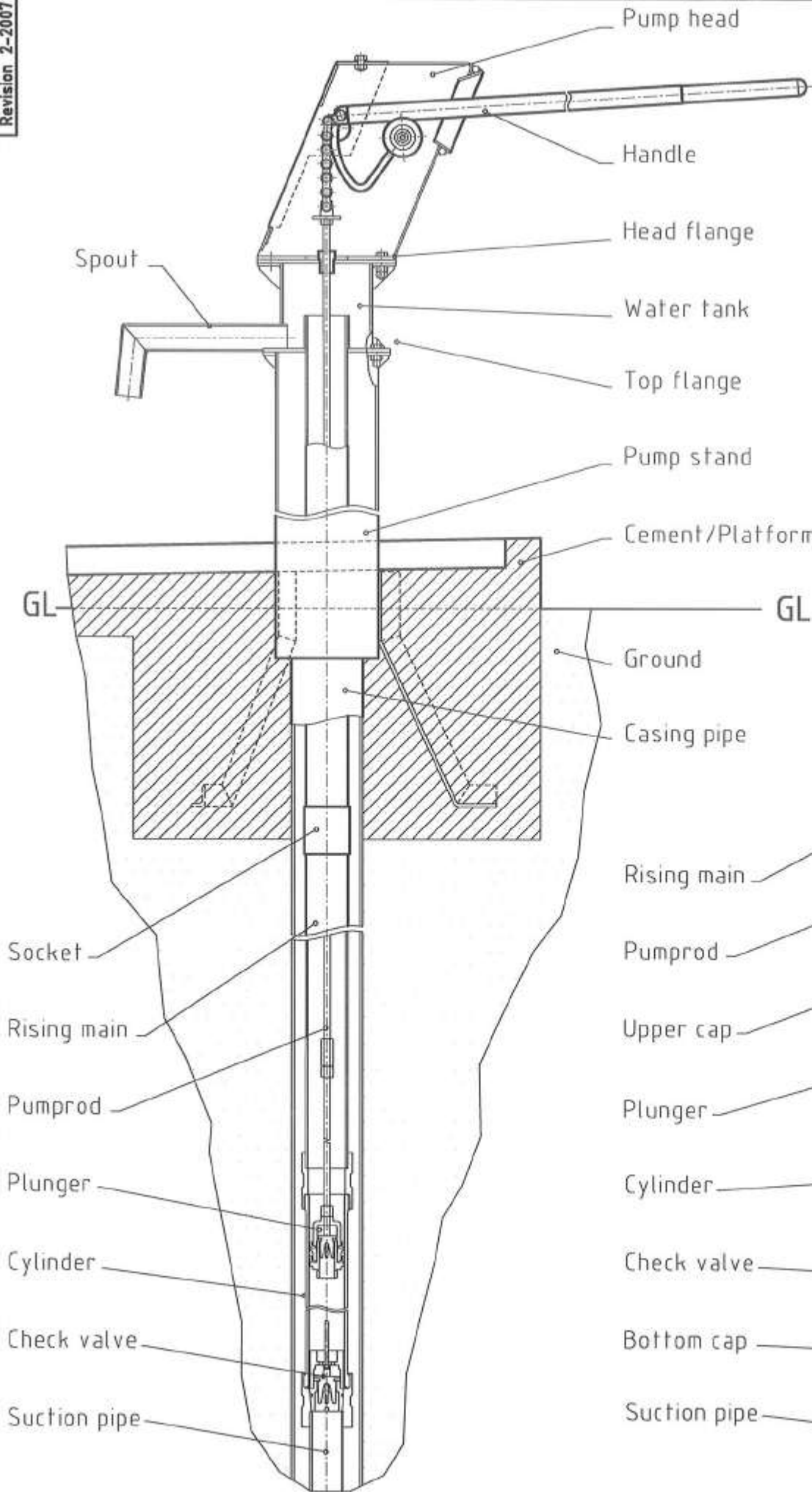
India Mark Handpumps

International Standards used in the India Mark Handpump Specifications

ISO 7-1	Pipe threads where pressur-tight joints are made on threads – Dimensions.
ISO 15	Rolling bearings – Radial bearings – Boundry dimensions, general plan.
ISO 65	Carbon steel tubes suitable for screwing in accordance with ISO 7-1.
ISO 185	Grey cast iron – Classification.
ISO 426-1	Wrought copper-zinc alloys – Non leaded and special copper-zinc alloy.
ISO 426-2	Wrought copper-zinc alloys – Leaded copper-zinc alloy.
ISO 559	Steel tubes for water and sewage.
ISO 630	Structural steels.
ISO 657-1	Hot rolled steel sections – Equal-leg angles – Dimensions.
ISO 1127	Stainless steel tubes - Dimensions, tolerances.
ISO 1461	Metallic coatings - Hot dip galvanized coatings - Requirements.
ISO 1635-2	Seamless wrought copper and copper alloy tube – Technical conditions.
ISO 1637	Wrought copper and copper alloy rod and bar – Technical conditions.
ISO 2081	Metallic coatings - Electroplated coatings of zinc on iron or steel.
ISO 2082	Metallic coatings - Electroplated coatings of cadmium on iron or steel.
ISO 2859-1	Sampling pracedures for insp. by attributes – Sampling plans indexed by AQL.
ISO 3302-1	Rubber - Tolerances for products.
ISO 3581	Covered electrodes for manual arc welding of stainless & other high alloy steels.
ISO 3601-1	Fluid systems - Sealing devices - O-rings - ID, cross-sections, tolerances.
ISO 3601-3	Fluid systems - Sealing devices - O-rings - Quality acceptance criteria.
ISO 4014	Hexagon head bolts - Product grades A and B.
ISO 4017	Hexagon head screws - Product grades A and B.
ISO 4019	Cold finished steel – Dimensions and sectional properties.
ISO 4032	Hexagon nuts, style 1 - Product grades A and B.
ISO 4200	Plain end steel tubes, welded and seamless - Table of dimensions.
ISO 4520	Chromate conversion coatings on electro plated zinc and cadmium coatings.
ISO 5817	Arc welding joints in steel – Guidance for quality levels for imperfections.
ISO 7089	Plain washers - Normal series - Product grade A.
ISO 9330-1	Welded steel tubes for pressure purposes - Technical delivery conditions.
ISO 9692	Metal-arc welding, gaz-shielded welding and gaz welding – Joint preparations.
ISO 9956-2	Specification & approval of welding procedure for metallic materials – Arc welding.
ISO 15510	Stainless steels – Chemical composition.
BS 2751	Specification for general purpose acrylonitrile - butadiene rubbers.

Engineering Drawings for the

India Mark III Handpump



Spout

GL

GL

(B)

Drawn by:	K. Erol	13.12.00
Checked by:	[Signature]	15.07.07
Released by:	[Signature]	19.07.07

Scale: 1:10 (1:5)

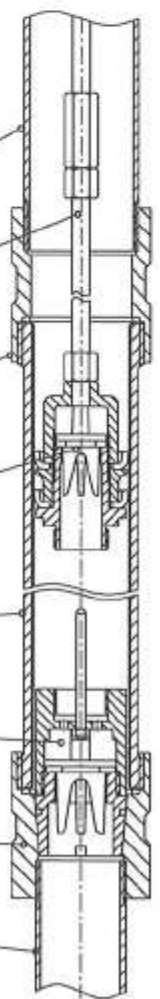
India Mark III

RWSN Pump assembly

Rural Water Supply Network

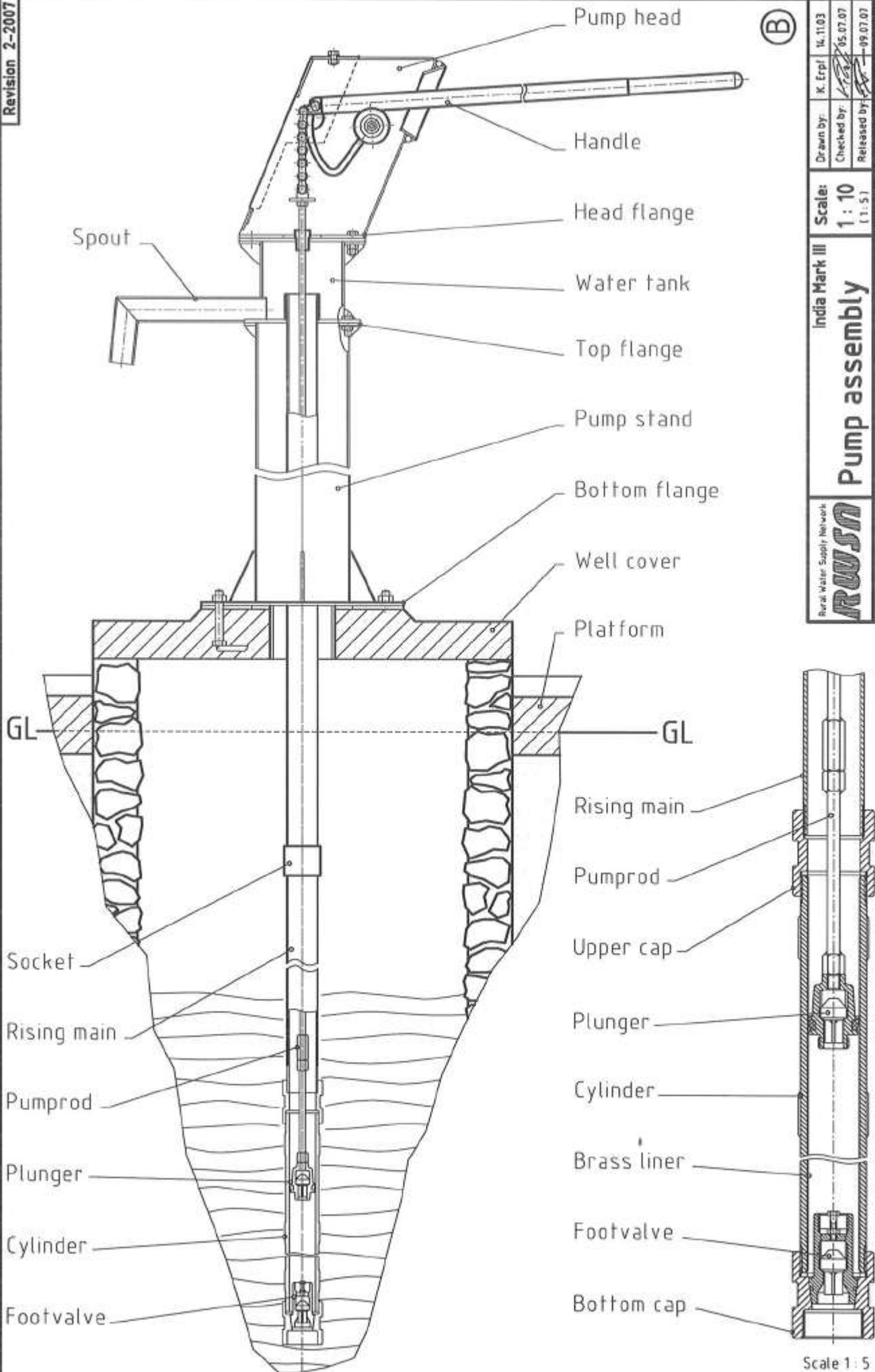
International Handpump Specification

D9099



Scale 1:5

(B)



Drawn by:	K. Erpl	M. 11.03
Checked by:	[Signature]	05.07.07
Released by:	[Signature]	09.07.07

Scale: 1:10 (1:5)

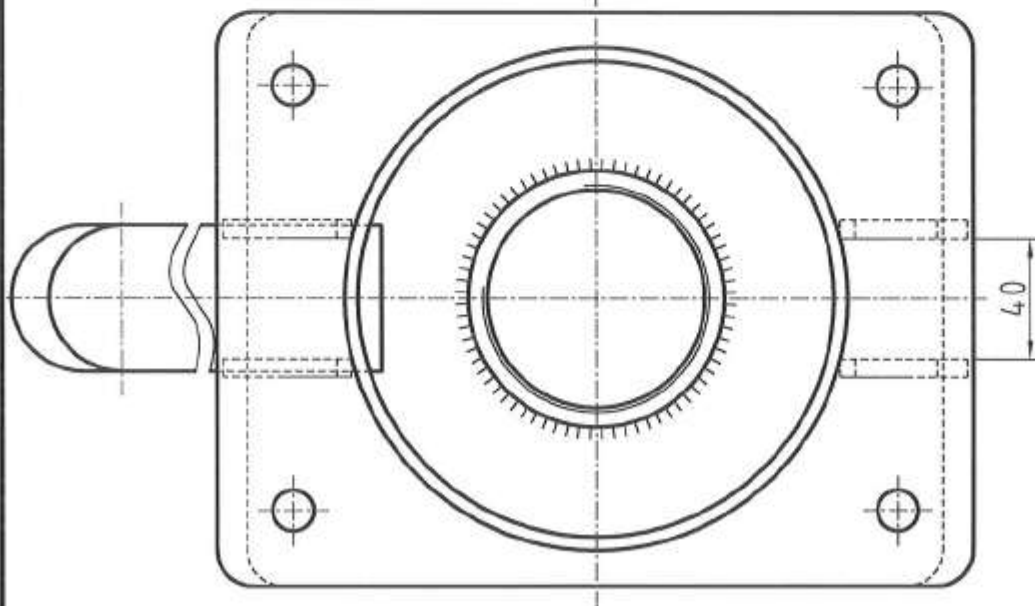
India Mark III
RWSN Pump assembly
 Rural Water Supply Network

D9192



International Handpump Specification

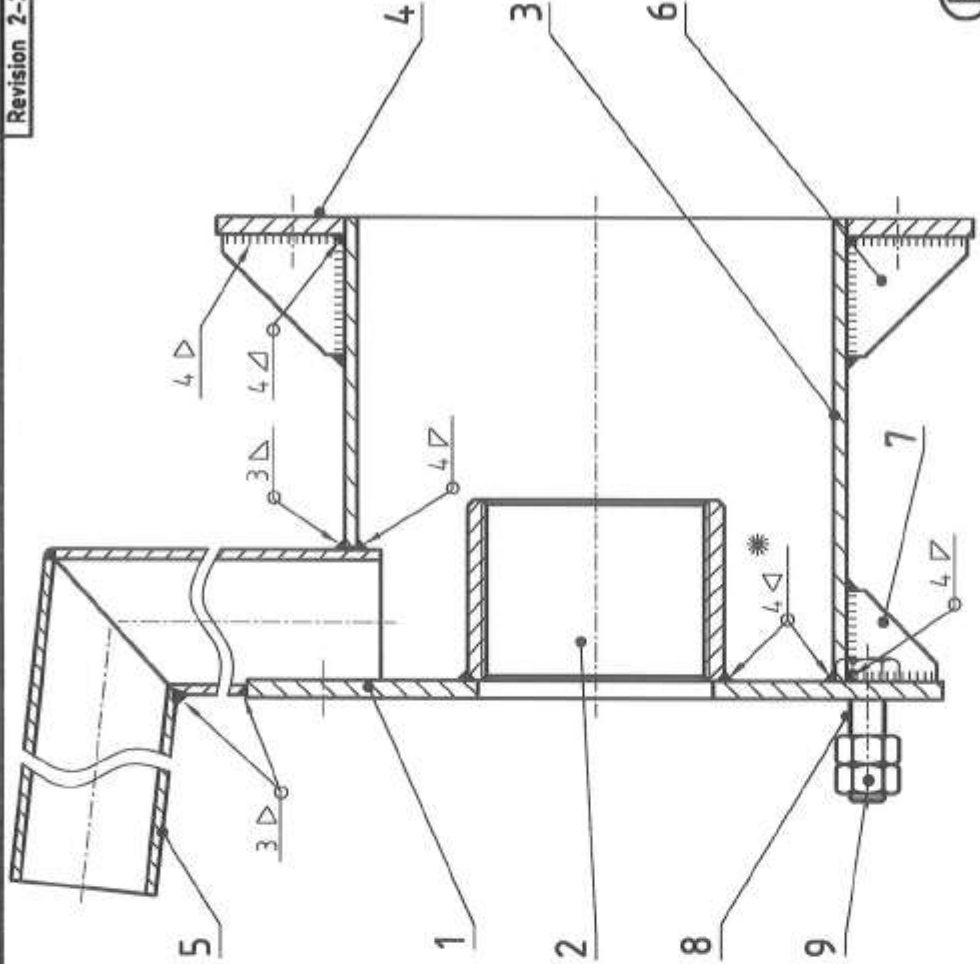
Scale 1:5



* THE INSIDE WELDING OF THE TANK PIPE, RISER PIPE HOLDER AND SPOUT SHALL BE GIVEN A SEALING RUN

HOT DIP GALVANIZED TO ISO 1461
GENERAL TOLERANCES +/- 2 UNLESS OTHERWISE STATED

Pos. Qty.	Description	Drawing No.	Remarks
9 8	Hex nut	C1016	M12
8 4	Hex bolt	C1017	M12x4.0
7 2	Gusset	C2269	---



Pos. Qty.	Description	Drawing No.	Remarks
6 4	Gusset	C2345	---
5 1	Spout assembly	B2367	---
4 1	Flange	C2344	---
3 1	Tank pipe	C2343	---
2 1	Riser pipe holder	C2623	---
1 1	Flange	C2622	---

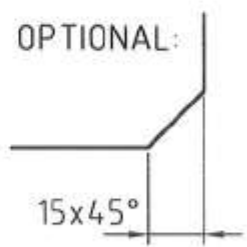
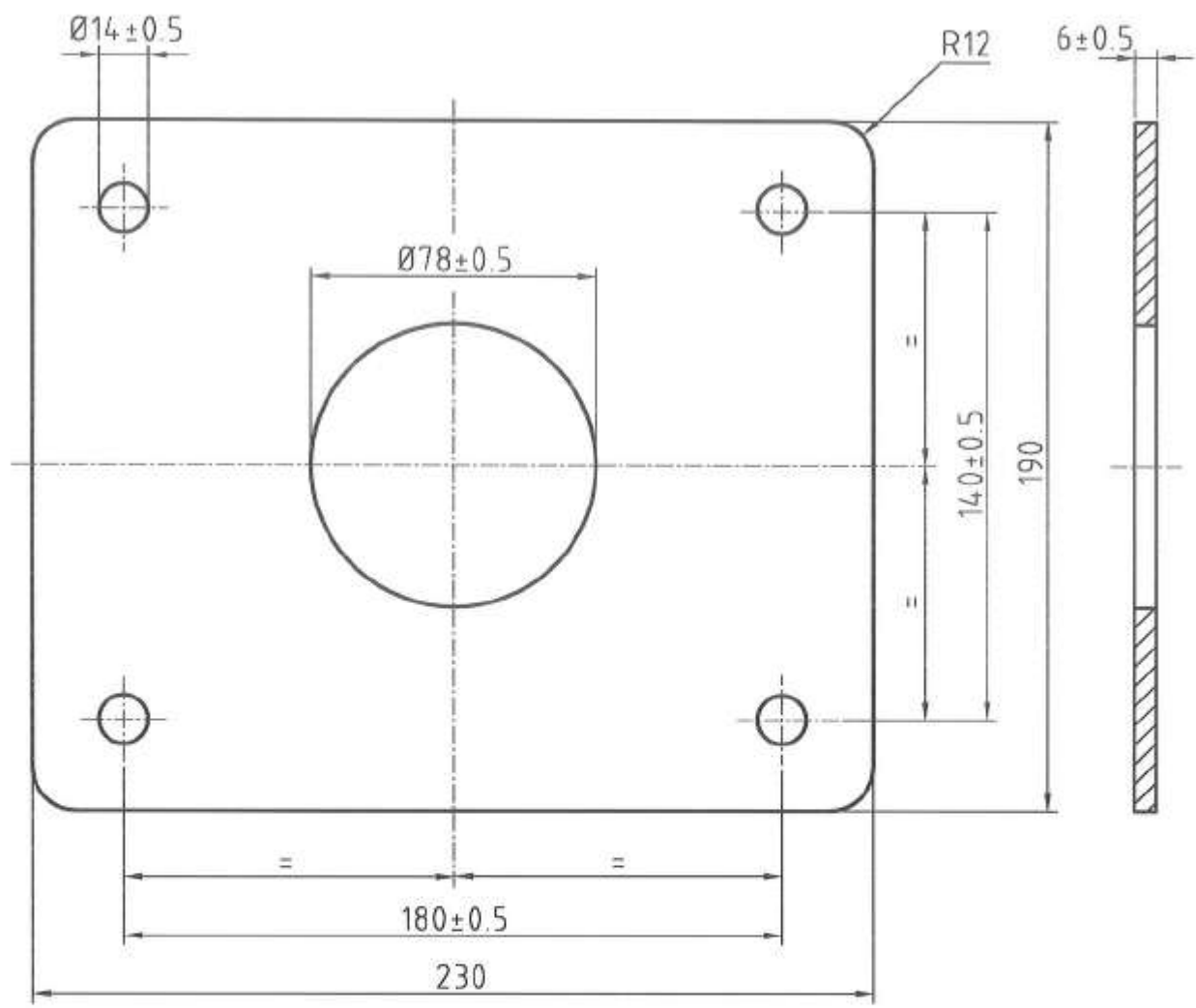
Rural Water Supply Network
RWSN
Sub assembly

Water tank assy.
Scale: 1 : 2.5

International Handpump Specification

Drawing No. B2621

Drawn by: I. Ieder 15.03.97
Checked by: 05.07.07
Released by: 09.07.07



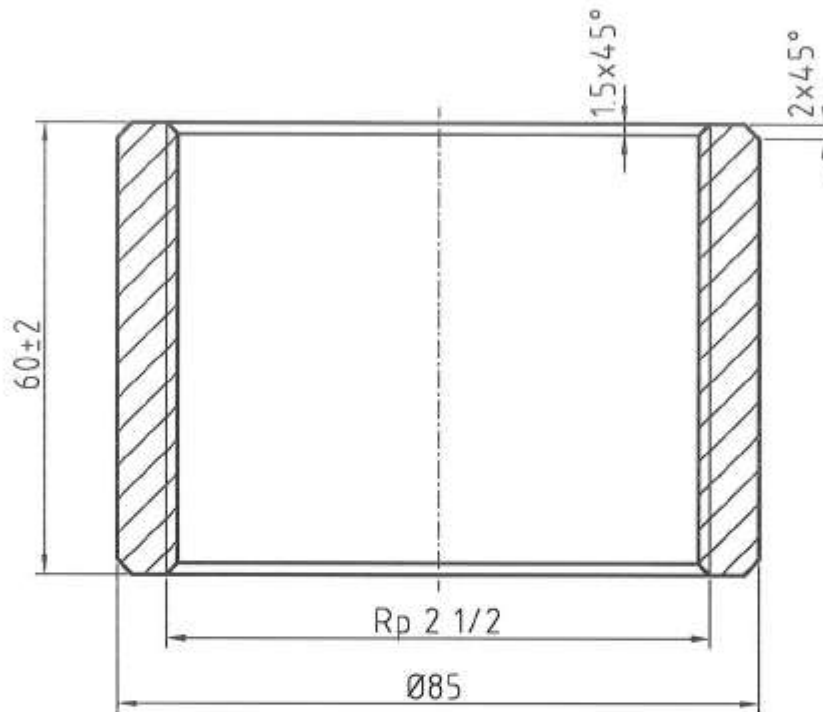
ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE ± 1 UNLESS OTHERWISE STATED

(B)

Flange	6 x 190 x 230	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1:2	Drawn by: t.leder. 15.03.97
	Flange			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2622

NOTE: THIS COMPONENT HAS TO BE MADE OF STRUCTURAL STEEL,
DON'T USE STANDARD SOCKER OF 2 1/2" !

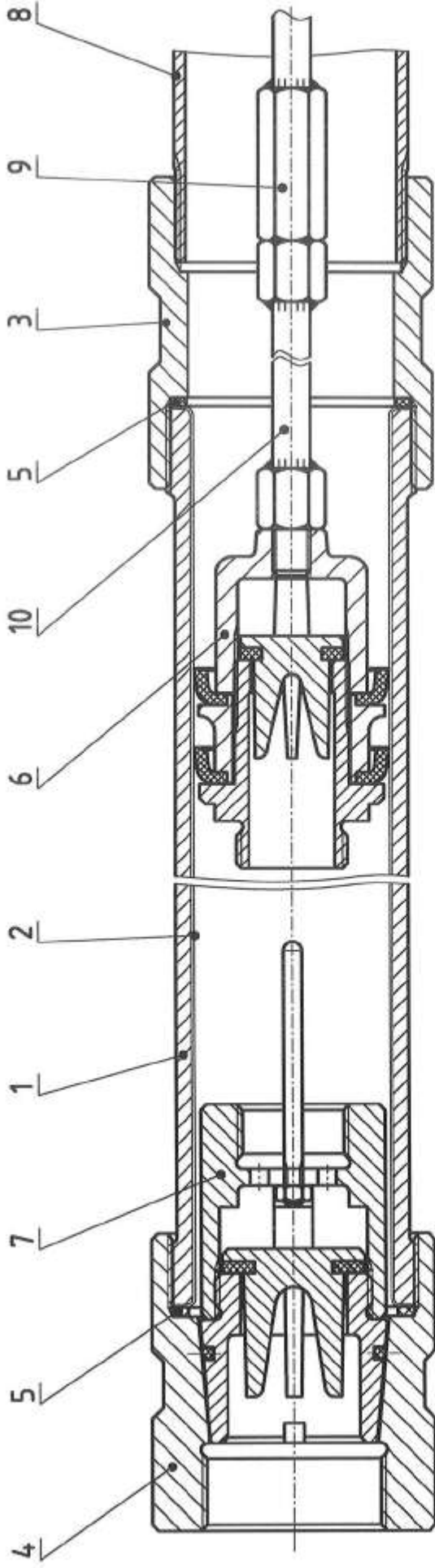
Revision 2-2007



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 1 UNLESS OTHERWISE STATED

(B)

Riser pipe holder	Ø85 x 60	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: t.leder. 15.03.97
	Riser pipe holder			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2623



(B)

10	1	Plunger rod assy.	B2555	---
9	X	Pumprod assy.	B2373	(or B2383)
8	X	Riser pipe	C2665	---
7	1	Check valve assy.	A2659	---
6	1	Plunger assembly	A2657	---
5	2	Sealing ring	C2354	---
4	1	Bottom cap	C2655	---
3	1	Upper cap	C2654	---
2	1	Brass liner	C2653	---
1	1	Cylinder	C2652	---

Pos.	Qty.	Description	Drawing No.	Remarks
		Sub assembly	India MK III (Ø63.5)	



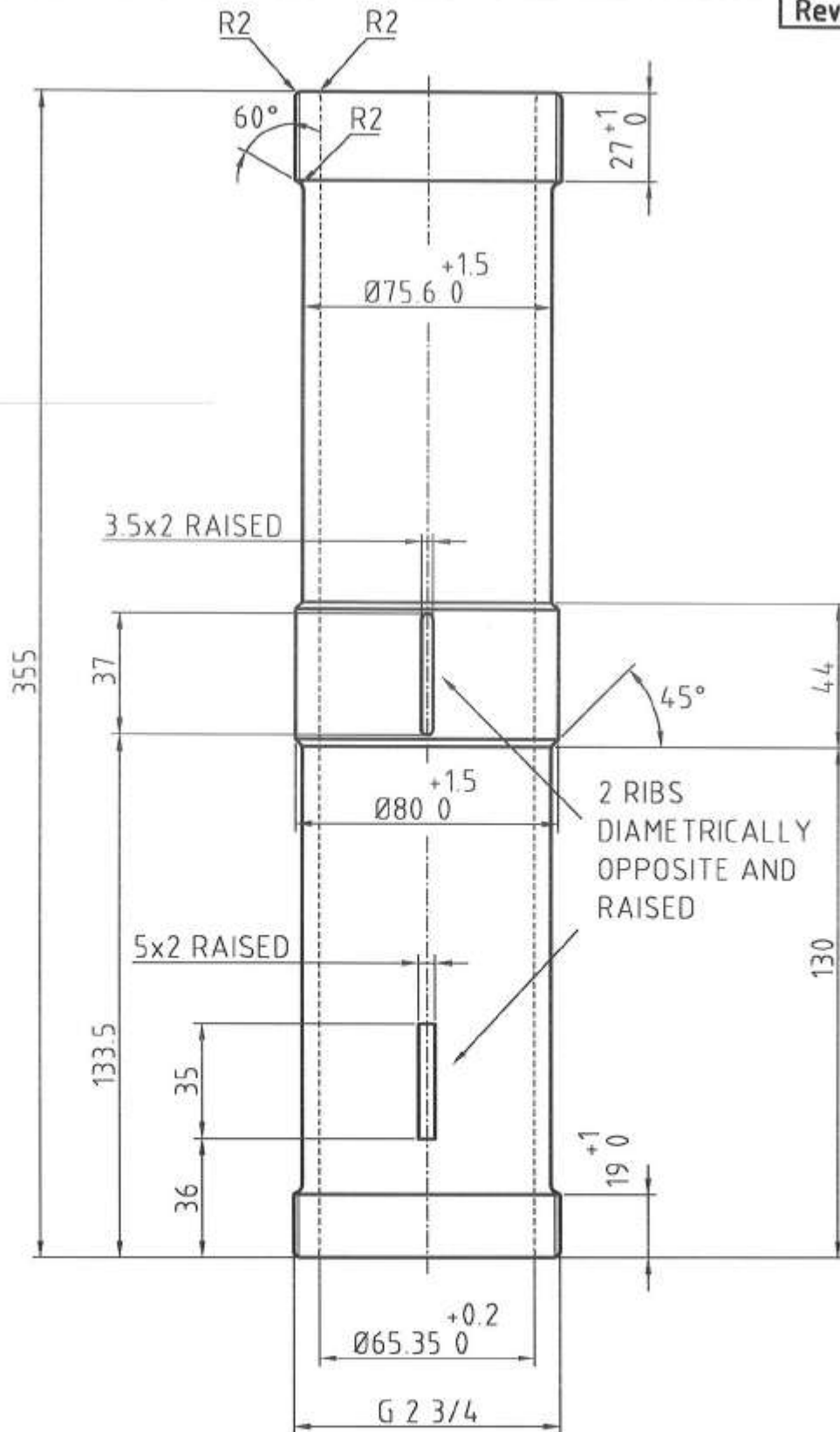
Cylinder assembly

Scale: 1:2

Drawn by: KErpl 09.08.01
 Checked by: [Signature] 05.07.07
 Released by: [Signature] 09.07.07

International Handpump Specification

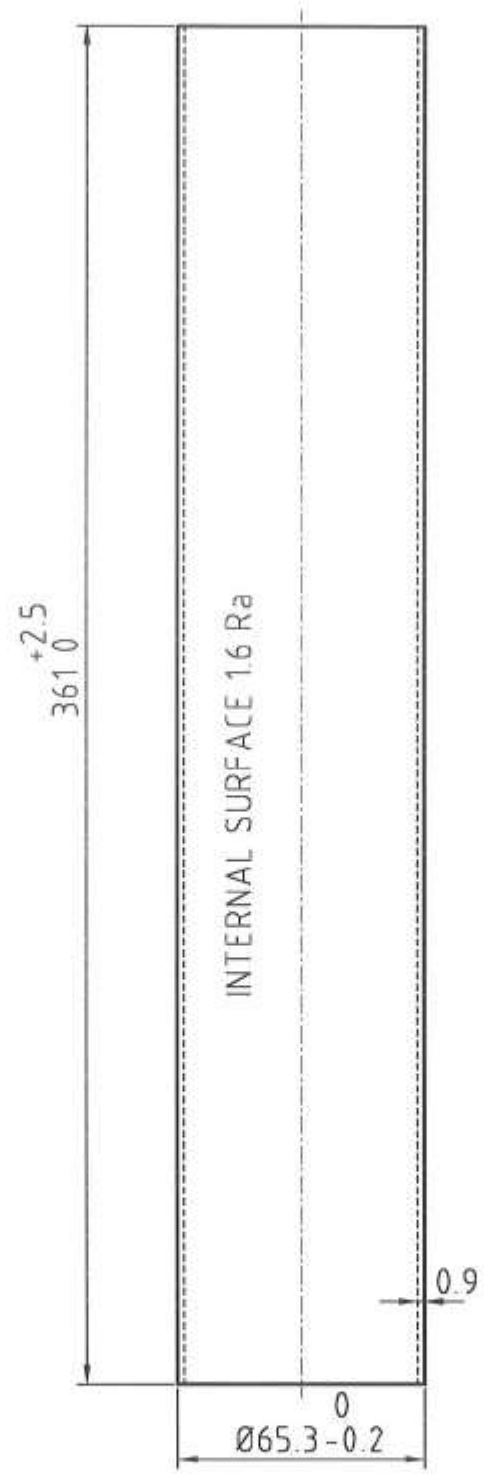
A2651



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES +/-2 UNLESS OTHERWISE STATED

(B)

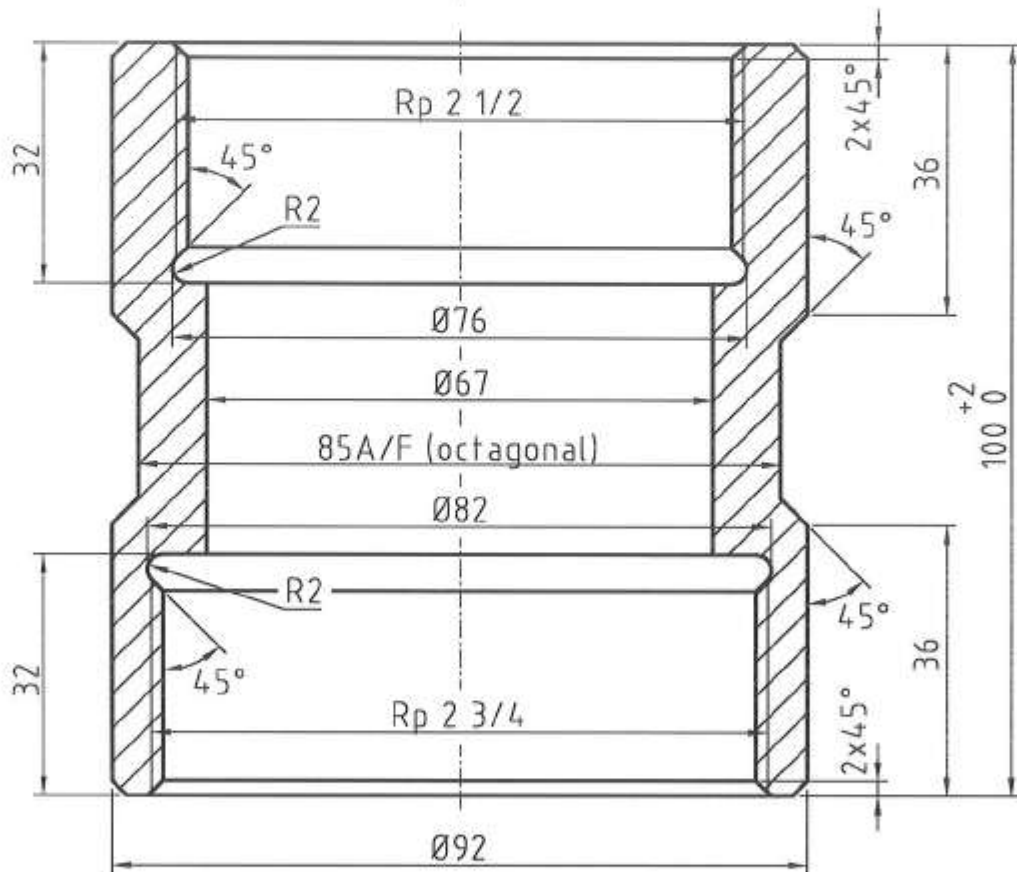
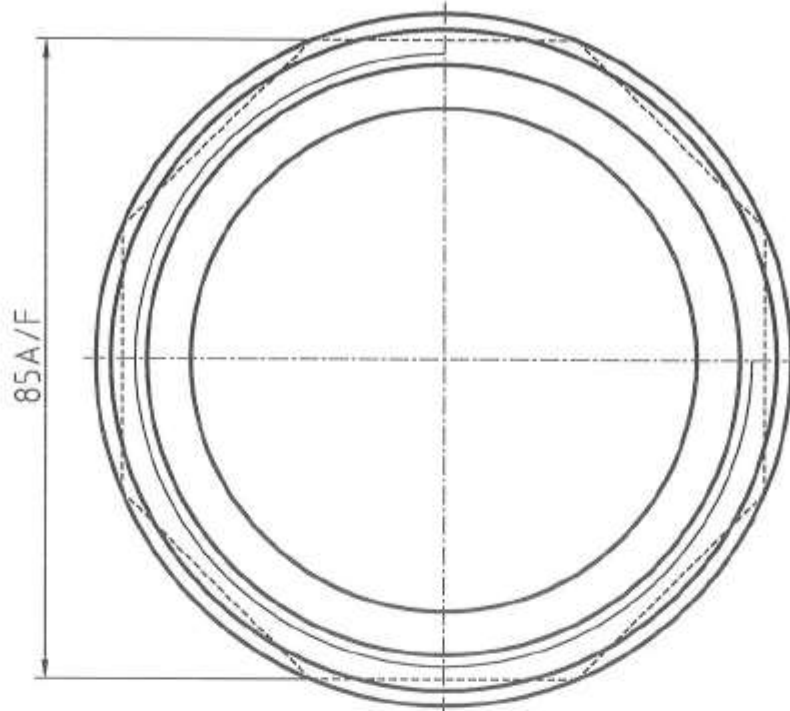
Cylinder	Ø82 x 355	GG20	ISO 185	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 2	Drawn by: t.leder 15.03.97
	Cylinder			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2652



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES +/-0.5 UNLESS OTHERWISE STATED

(B)

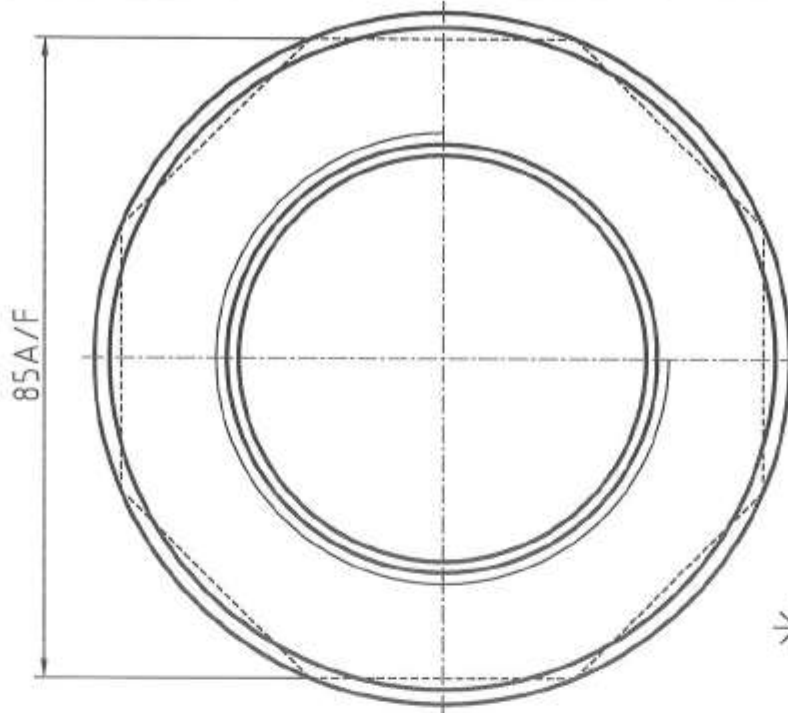
Brass liner	Ø65.3/0.9 x 361	Copper-zinc alloy	ISO 426-1	CuZn37
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale:	Drawn by: f.leder 15.03.97
	Brass liner		1:2	Checked by: 05.07.07
				Released by: 09.07.07
International Handpump Specification				C2653



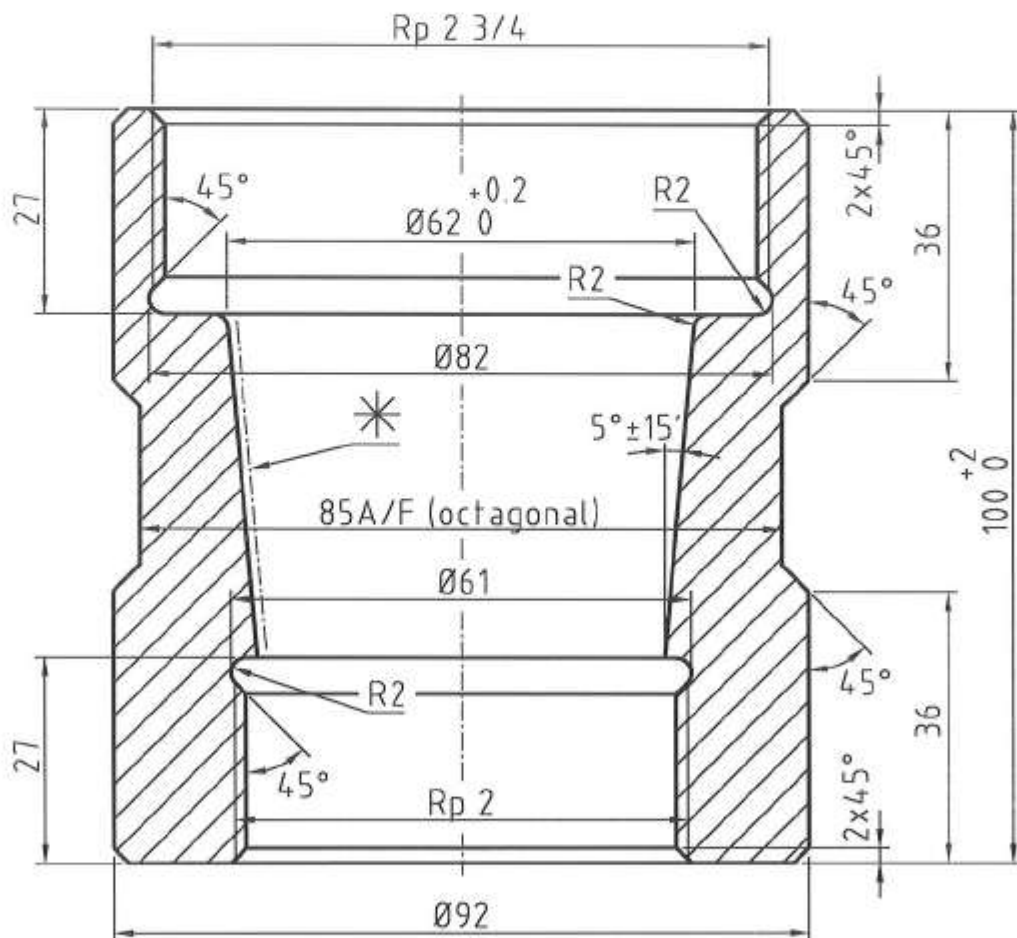
ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES +/-1 UNLESS OTHERWISE STATED

(B)

Upper cap	Ø92 x 100	GG20	ISO 185	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: f.leder 15.03.97 Checked by: <i>[Signature]</i> 05.07.07 Released by: <i>[Signature]</i> 09.07.07
	Upper cap			International Handpump Specification



* THIS SURFACE TO BE MACHINED SMOOTHLY

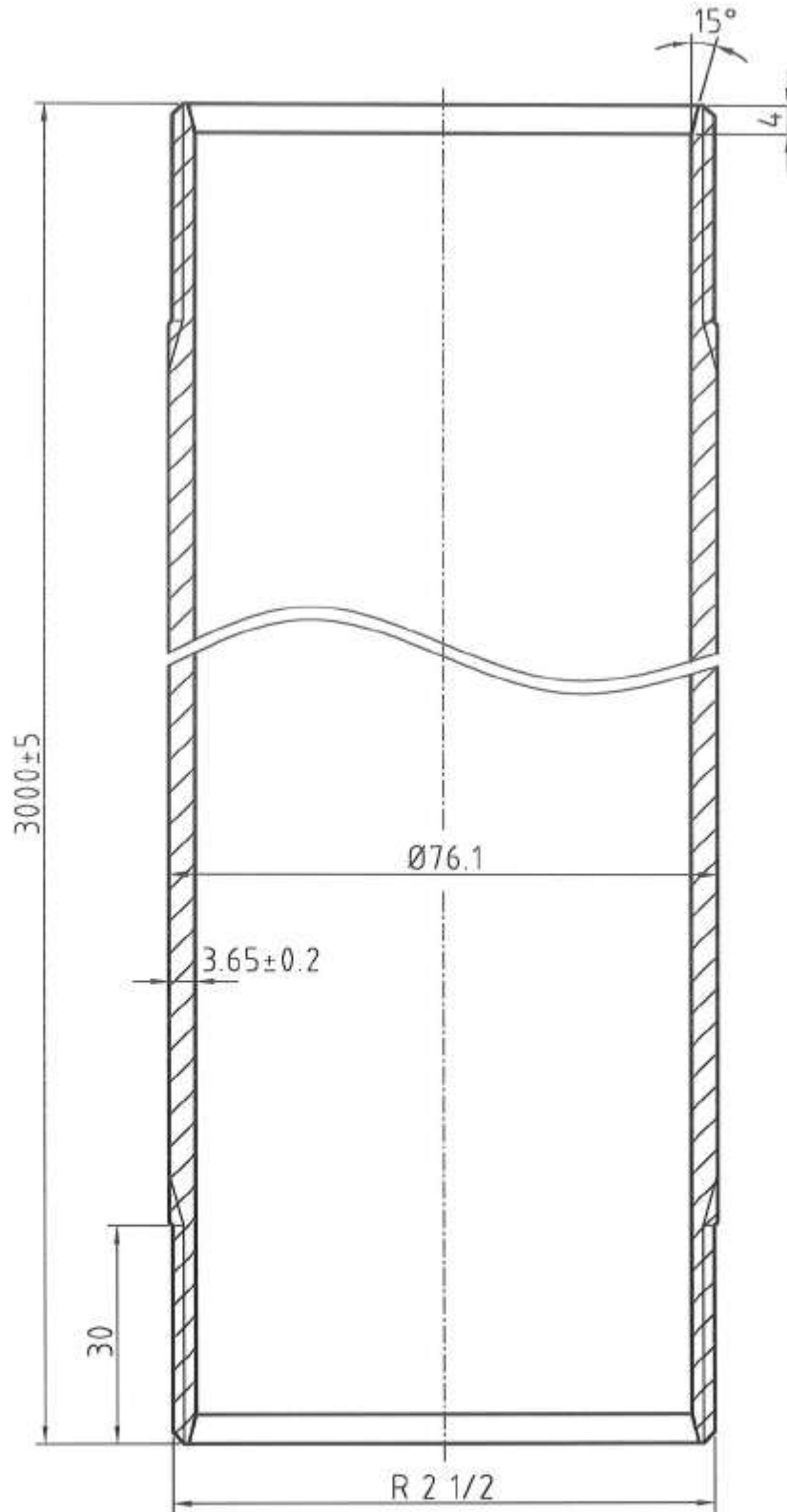


GENERAL TOLERANCES +/-1 UNLESS OTHERWISE STATED

ALL SHARP CORNERS TO BE ROUNDED OFF

(B)

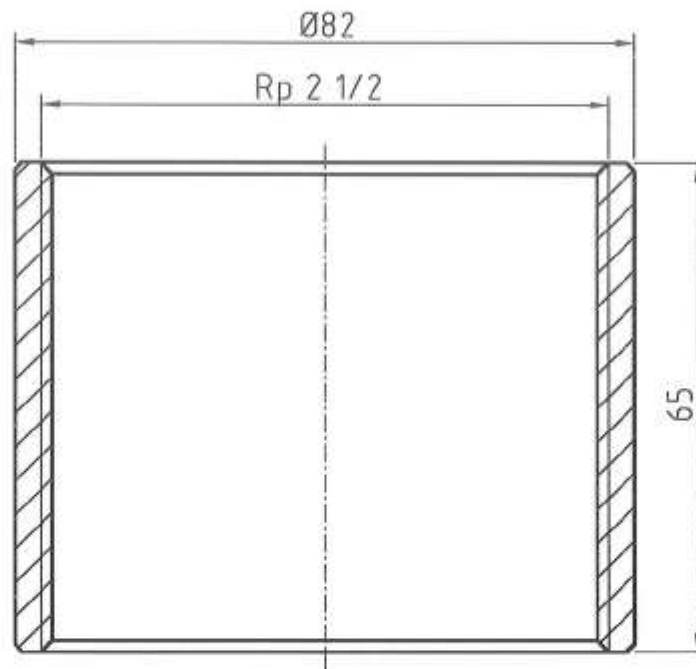
Bottom cap	Ø92 x 100	GG20	ISO 185	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 09.10.03
	Bottom cap			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2655



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES ± 0.5 UNLESS OTHERWISE STATED





Ⓑ

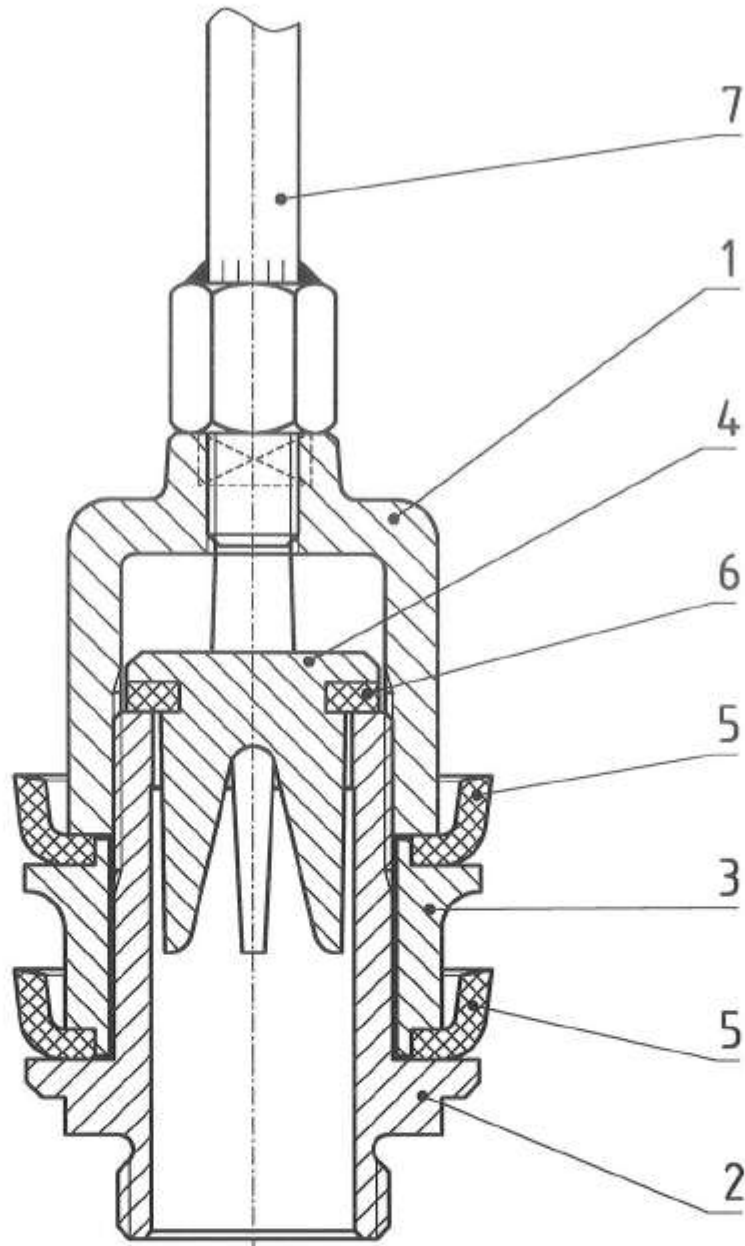
Riser pipe	$\text{Ø}76.1/3.65 \times 3000$	ST 320	NB65 (2 1/2"), medium	GI pipe, galvanized
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale:	Drawn by: t leder. 15.03.97
	Riser pipe		1 : 1	Checked by: [Signature] 05.07.07
				Released by: [Signature] 09.07.07
International Handpump Specification				C2665



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES +/-1 UNLESS OTHERWISE STATED

(B)

Socket	Ø82 x 65	ST 320	---	GI pipe, galvanized
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: f.leder 15.03.97
	Socket			Checked by:  05.07.07
				Released by:  09.07.07
International Handpump Specification				C2666

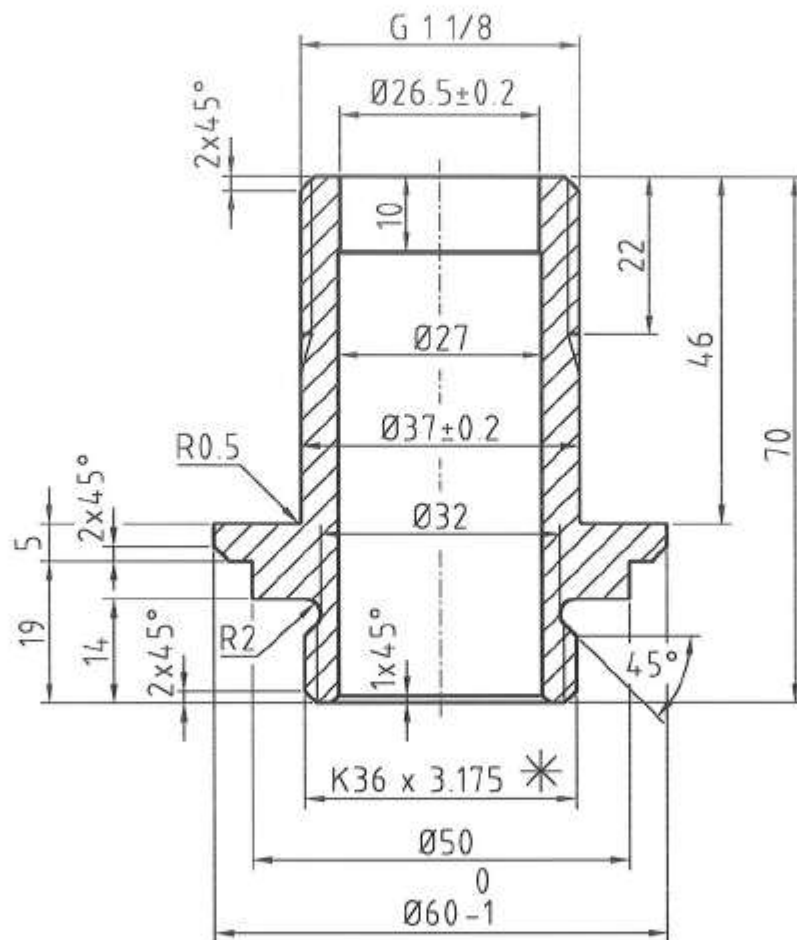
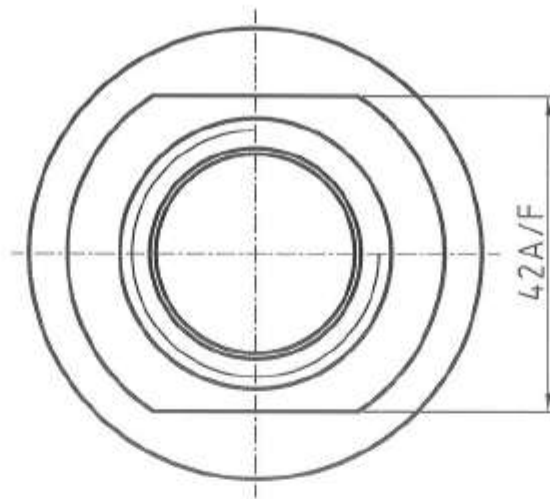


ⓑ

7	1	Plunger rod assy.	B2555	---
6	1	Rubber seating	C2360	---
5	2	Cup seal	C2359	---
4	1	Upper valve	C2358	---
3	1	Spacer	C2357	---
2	1	Follower	C2658	---
1	1	Plunger body	C2355	---
Pos.	Qty.	Description	Drawing. No.	Remarks

Rural Water Supply Network RWSN	Sub assembly		Scale: 1 : 1	Drawn by: K. Erpf	29.09.03
	Plunger assembly			Checked by: <i>[Signature]</i>	05.07.07
				Released by: <i>[Signature]</i>	09.07.07
International Handpump Specification				A2657	

* LOOSE FIT WITH
CAGE C2660



THE BRINELL HARDNESS SHALL BE 60 TO 70

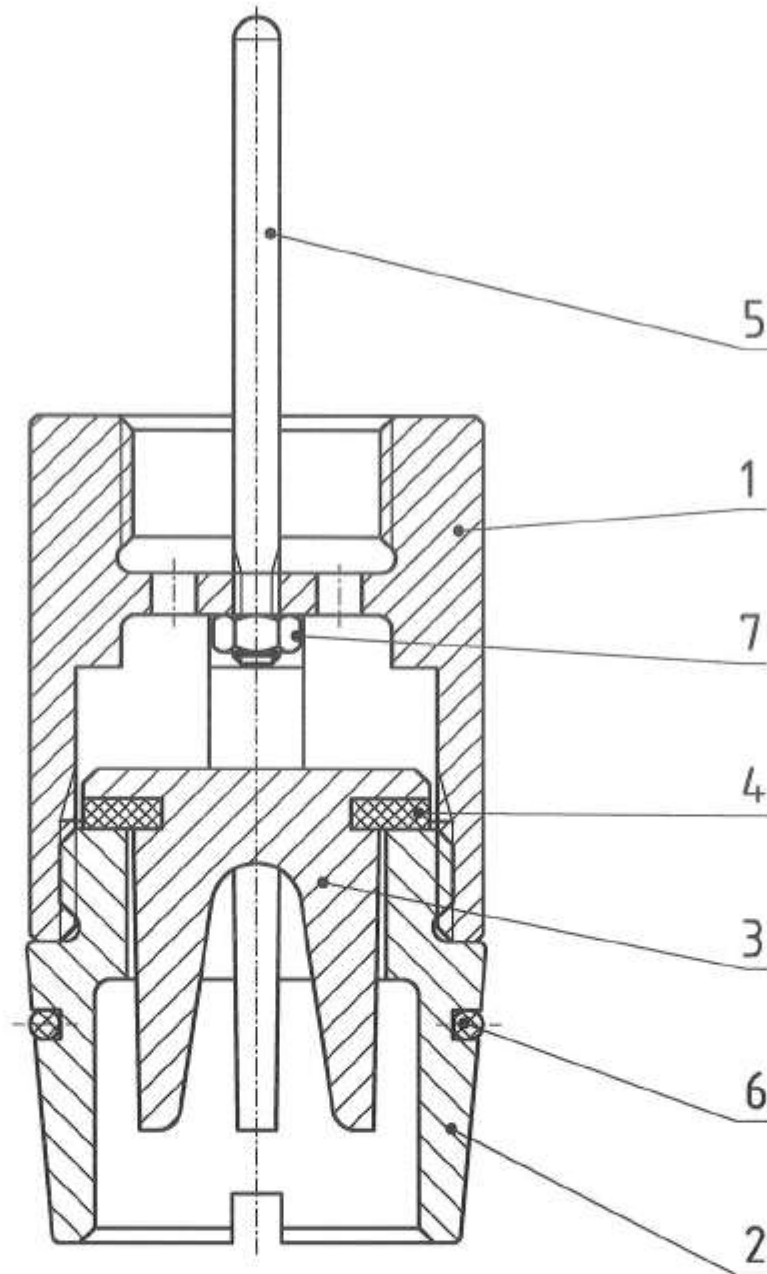
THE CASTING SHALL BE FREE FROM SEGREGATIONS

GENERAL TOLERANCES ± 0.5 UNLESS OTHERWISE STATED

ALL SHARP CORNERS TO BE ROUNDED OFF


(B)

Follower	Ø60 x 70	Coper-zinc alloy	ISO 426-2	CuZn38Pb4
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: t leder 15.03.97
	Follower			Checked by: <i>[Signature]</i> 05.07.07
			Released by: <i>[Signature]</i> 09.07.07	
International Handpump Specification				C2658



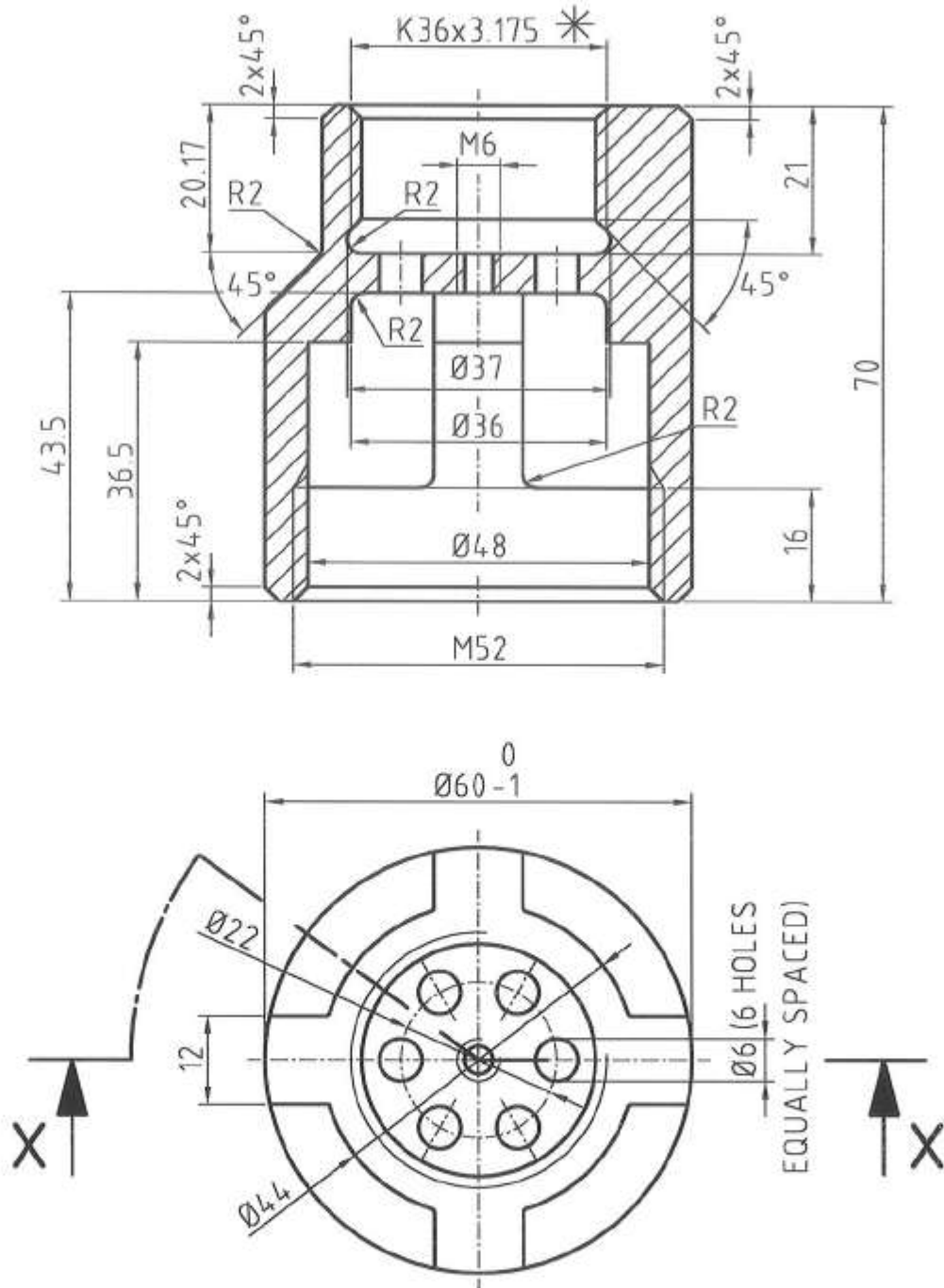
(B)

7	1	Hexagonal nut	C1121	M6
6	1	O-Ring	C1014	---
5	1	Push rod	C2664	---
4	1	Rubber seating	C2663	---
3	1	Check valve	C2662	---
2	1	Check valve seat	C2661	---
1	1	Cage	C2660	---

Pos.	Qty.	Description	Drawing. No.	Remarks
Rural Water Supply Network		Sub assembly		Scale:
RWSN		Check valve assembly		1 : 1
		Drawn by:	K. Erpf	29.09.03
		Checked by:	<i>[Signature]</i>	05.07.07
		Released by:	<i>[Signature]</i>	09.07.07
International Handpump Specification				
				A2659

* LOOSE FIT WITH FOLLOWER C2658

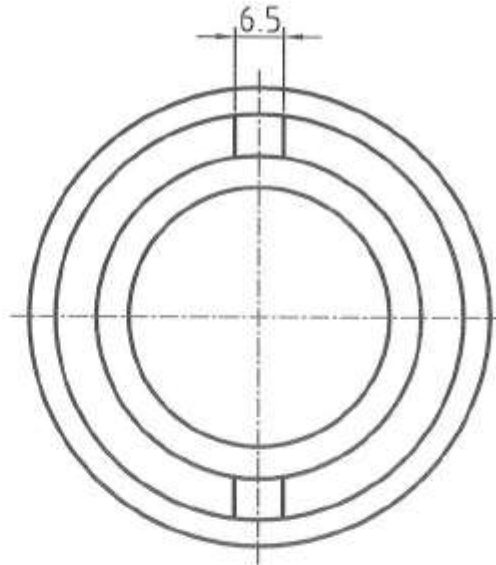
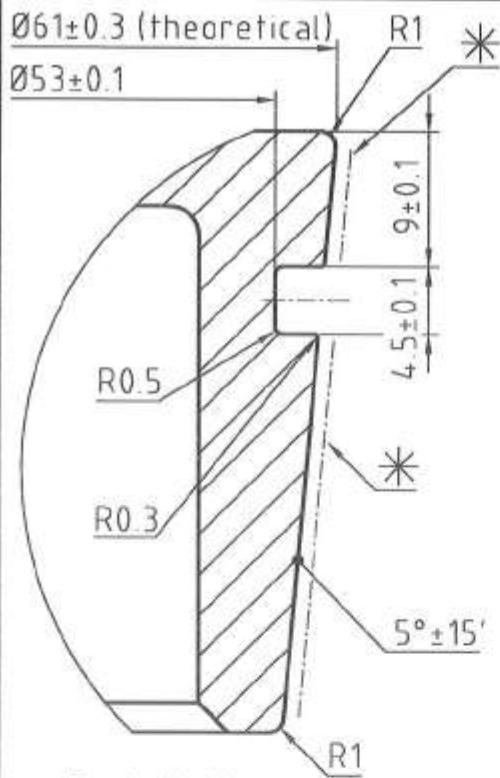
Section X-X



ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCES +/- 0.5 UNLESS OTHERWISE STATED

(B)

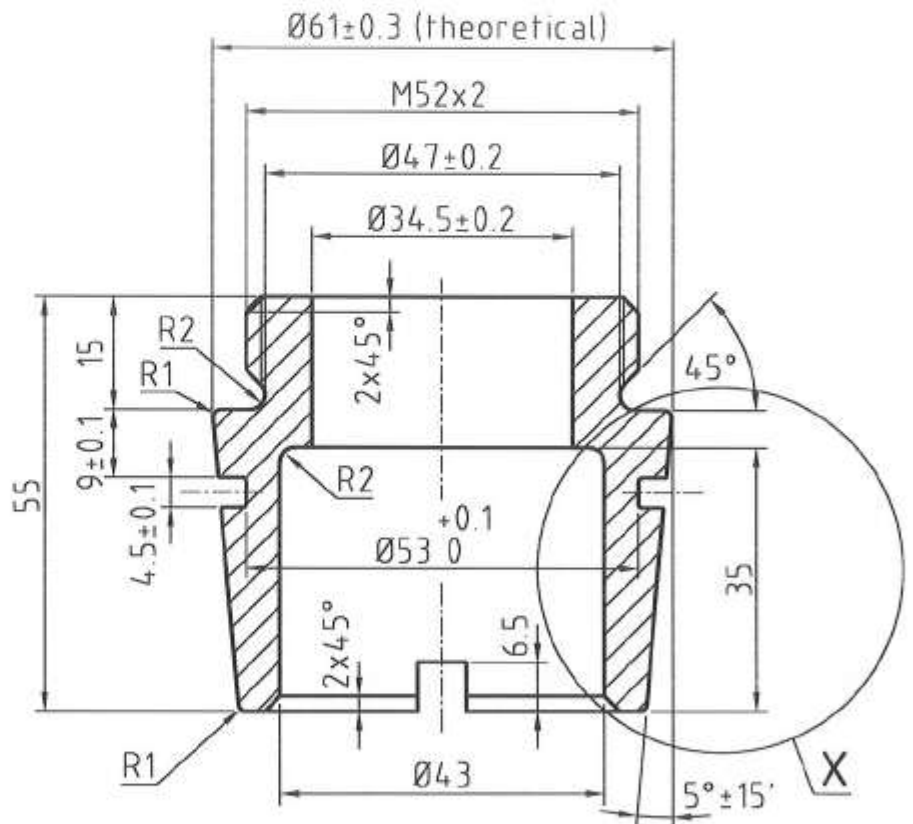
Cage	Ø60 x 70	Copper-zinc alloy	ISO 426-2	CuZn38Pb4
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Cage		Scale: 1:1	Drawn by: f leder 15.03.97 Checked by: [Signature] 05.07.07 Released by: [Signature] 09.07.07
International Handpump Specification				C2660



Detail X





Scale 2 : 1

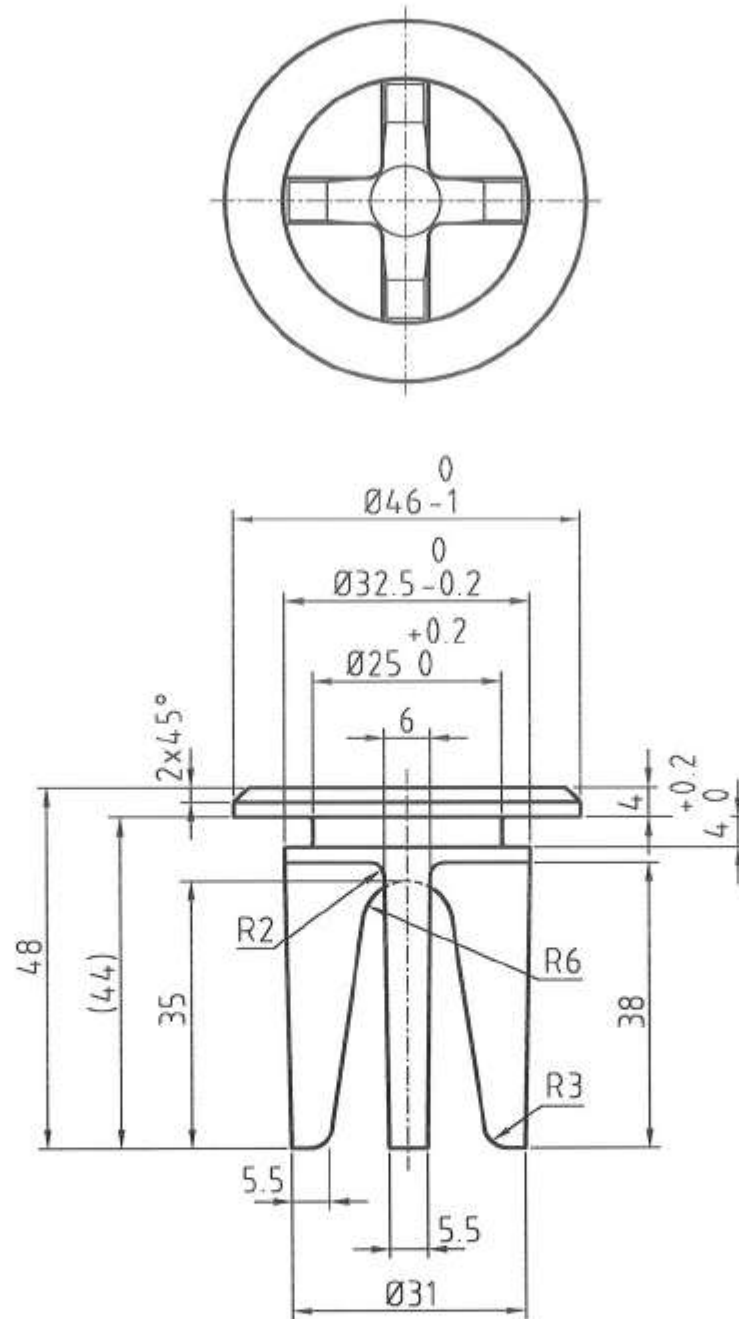
* THIS SURFACE TO BE MACHINED SMOOTHLY



ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCES ± 0.5 UNLESS OTHERWISE STATED

(B)

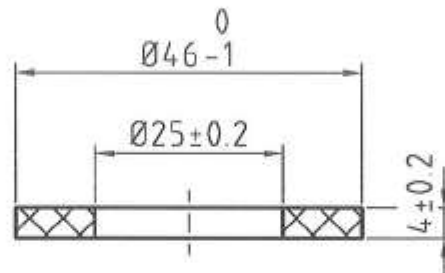
Description	Dimensions	Material	Standards	Remarks
Check valve seat	$\varnothing 61 \times 55$	Copper-zinc alloy	ISO 426-2	CuZn38Pb4
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 07.10.03
	Check valve seat			Checked by:  05.07.07
				Released by:  09.07.07
International Handpump Specification				C2661



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES +/- 0.5 UNLESS OTHERWISE STATED

(B)

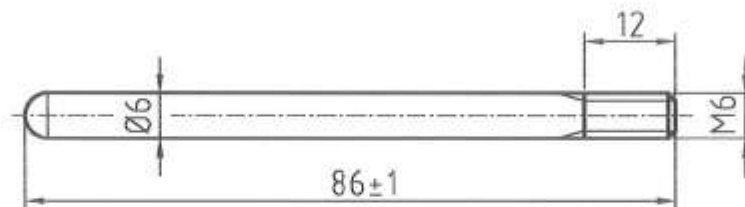
Check valve	$\varnothing 46 \times 48$	Copper-zinc alloy	ISO 426-2	CuZn38Pb4
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Check valve		Scale: 1 : 1	Drawn by: t.leder. 15.03.97 Checked by: <i>[Signature]</i> 05.07.07 Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2662



GENERAL TOLERANCES +/-0.5 UNLESS OTHERWISE STATED

Ⓑ

Description	Dimensions	Material	Standards	Remarks
Rubber seating	Ø46/25 x 4	Nitrile rubber	ISO 3302-1 (M2)	70-80 Shore A
Rural Water Supply Network RWSN	Detail drawing	Rubber seating	Scale:	Drawn by: t.leder. 15.03.97
			1:1	Checked by: [Signature] 05.07.07
				Released by: [Signature] 09.07.07
International Handpump Specification				C2663



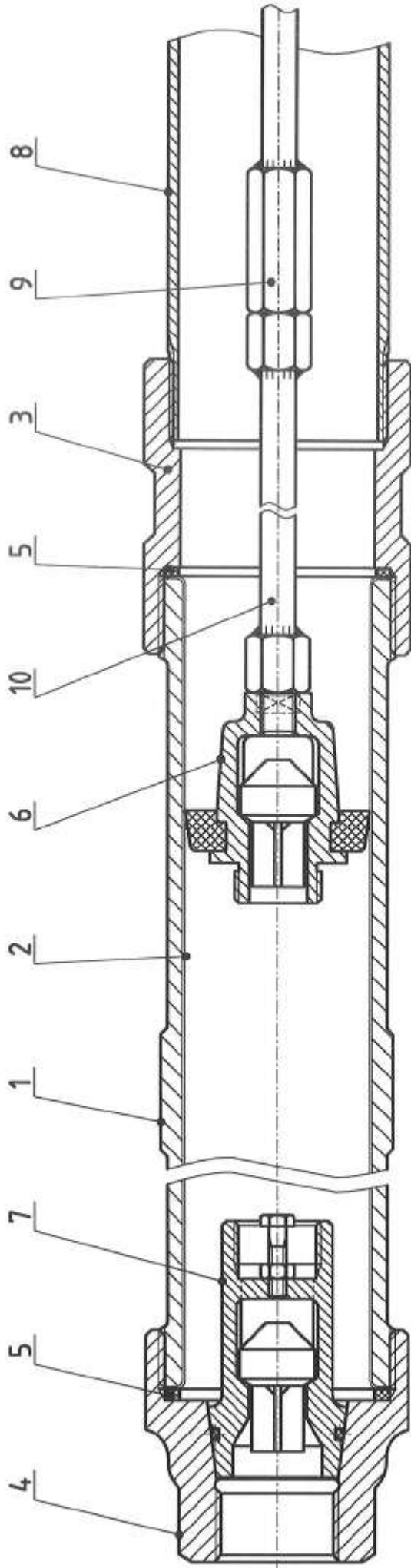
ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCES ± 0.5 UNLESS OTHERWISE STATED

Ⓑ

Push rod	Ø6 x 86	Stainless Steel	ISO 15510	X5CrNi 18-9, bright
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: t.leder 15.03.97
	Push rod			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2664

Options for the

India Mark III Handpump

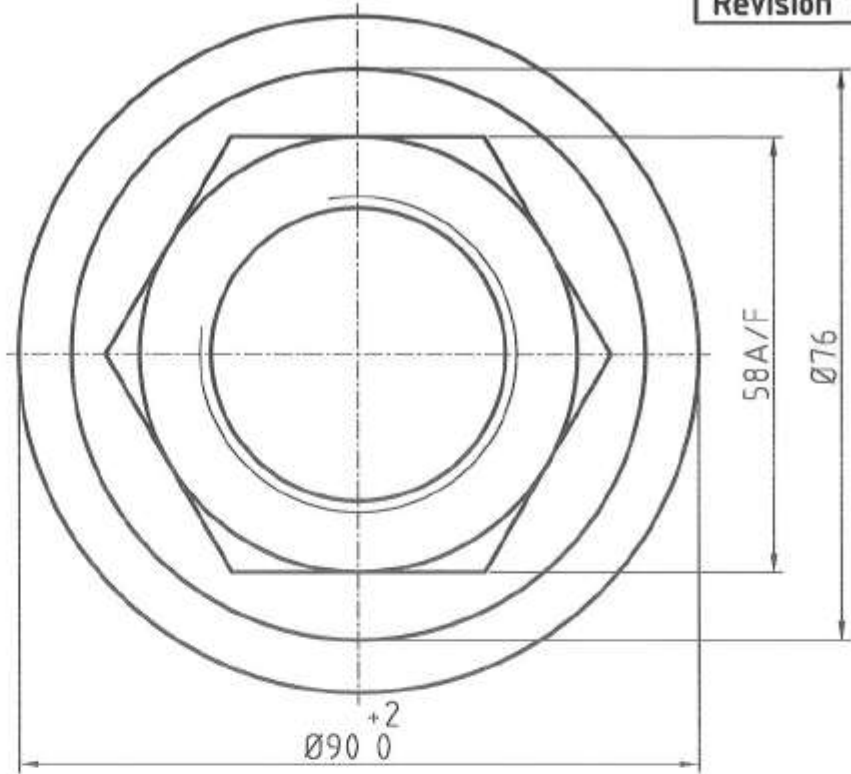


(B)

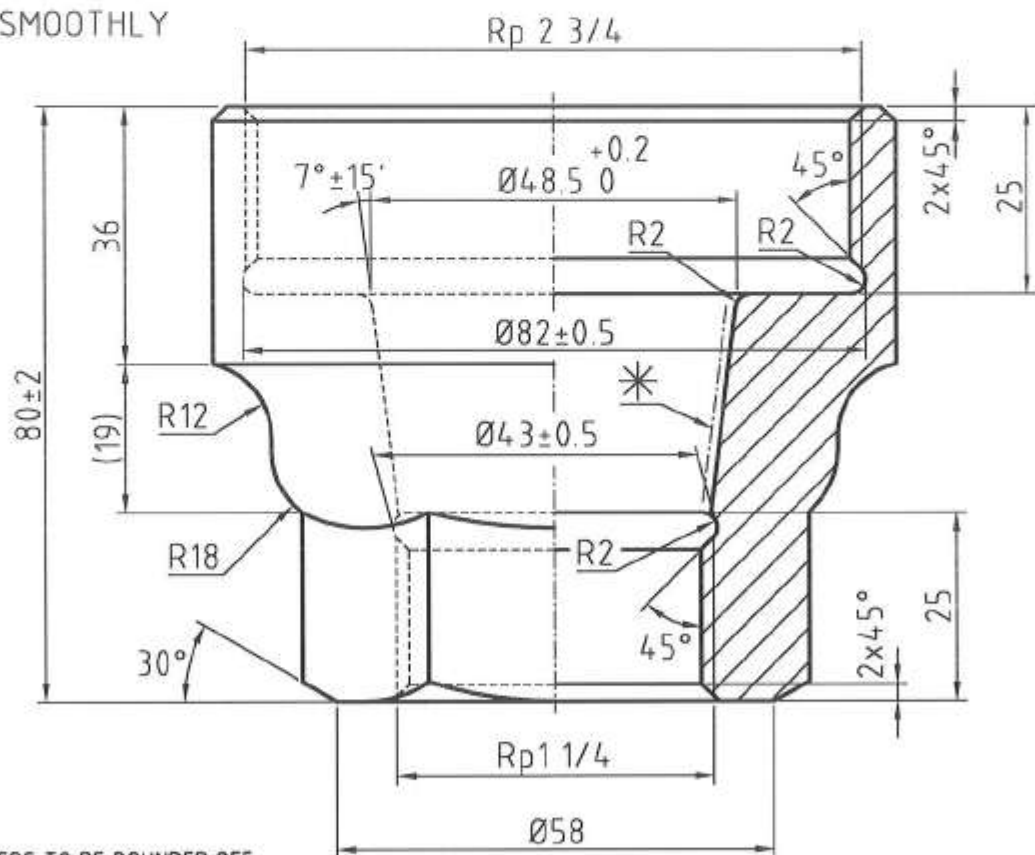
10	1	Plunger rod assy.	B2384	---
9	X	Pumprod assy.	B2373	(or B2383)
8	X	Riser pipe	C2665	---
7	1	Foot valve assy.	A2298	---
6	1	Plunger assembly	A2388	---
5	2	Sealing ring	C2354	---
4	1	Lower cap	C2387	---
3	1	Reducer cap	C2654	---
2	1	Brass liner	C2653	---
1	1	Cylinder	C2652	---

Pos.	Qty.	Description	Drawing No.	Remarks
		Rural Water Supply Network		India MK III
		Sub assembly		
		RWSN	Cylinder assembly	Scale: 1:2
				Drawn by: K.Erpf 29.09.03
				Checked by: [Signature] 05.07.07
				Released by: [Signature] 09.07.07

International Handpump Specification  A2386



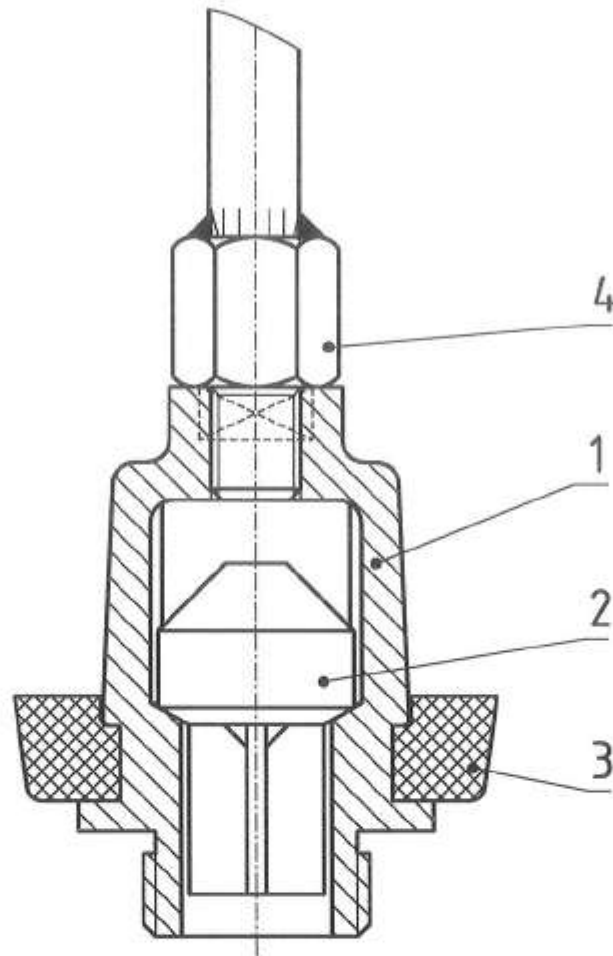
* THIS SURFACE TO BE MACHINED SMOOTHLY



ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCES +/-1 UNLESS OTHERWISE STATED

(B)

Lower cap	Ø90 x 80	GG20	ISO 185	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 11.12.02 Checked by: <i>[Signature]</i> 05.07.07 Released by: <i>[Signature]</i> 09.07.07
	Lower cap			International Handpump Specification



Ⓑ

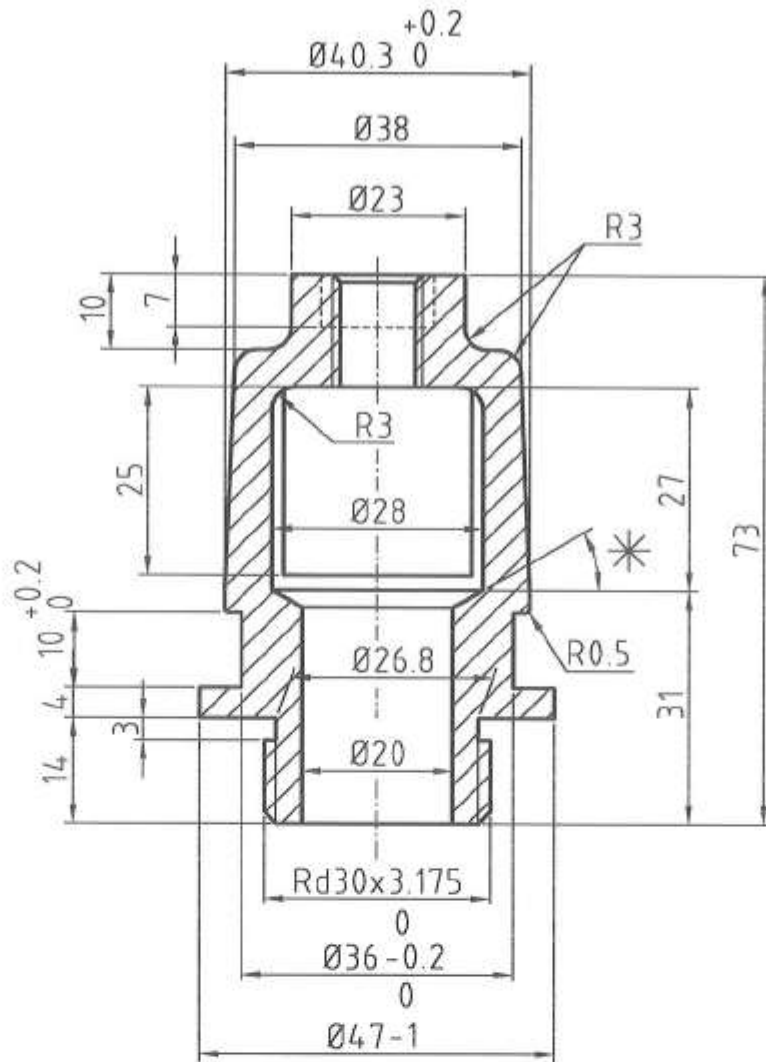
4	1	Plunger rod assy.	B2555	---
3	1	Cup seal	C2389	---
2	1	Bobbin	C2088	---
1	1	Plunger body	C2757	---

Pos.	Qty.	Description	Drawing. No.	Remarks
Rural Water Supply Network		Sub assembly		Scale:
RWSN		Plunger assembly		1 : 1
		Drawn by:	K. Erpf	29.09.03
		Checked by:	<i>[Signature]</i>	05.07.07
		Released by:	<i>[Signature]</i>	09.07.07

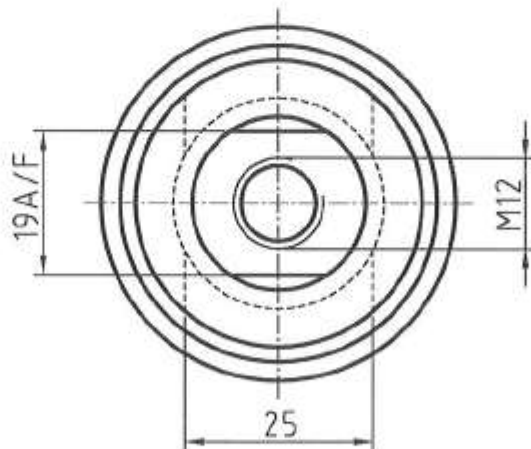
International Handpump Specification



A2388



* 30°±30'

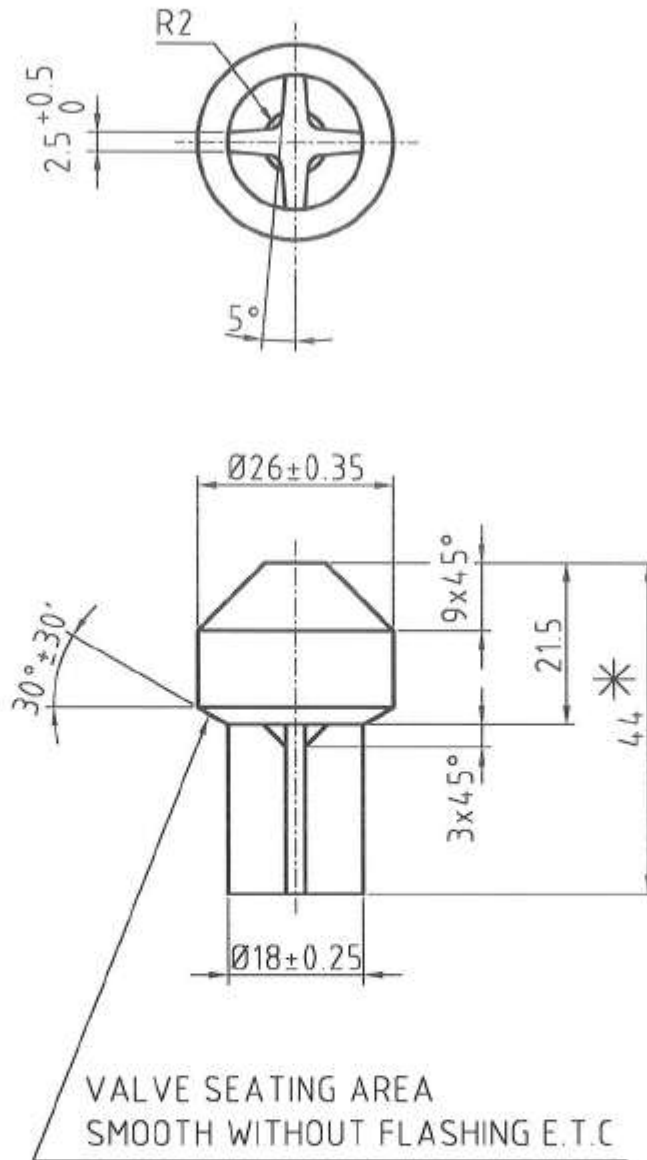


ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-0.5 UNLESS OTHERWISE STATED



Plunger body	Ø47 x 73	Copper-zinc alloy	ISO 426-2	CuZn38Pb4
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 15.03.99
	Plunger body			Checked by: 02.03.07
			Released by: 07.03.07	
International Handpump Specification				C2757

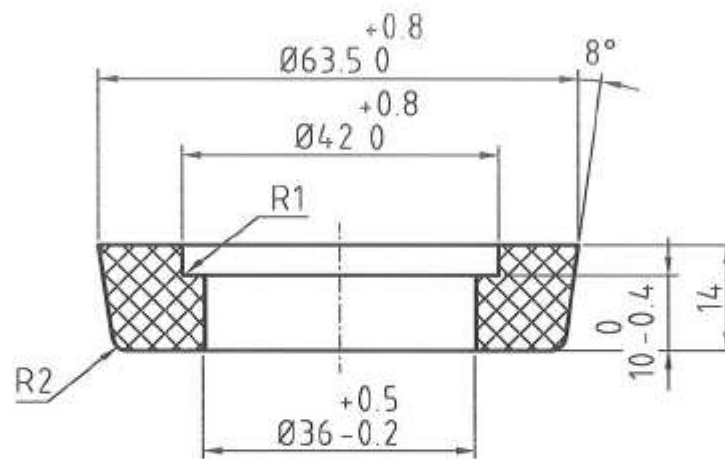
* IF NEW MOLDS ARE MADE, INCREASE LENGTH OF FINS FOR BETTER GUIDANCE.
 EXISTING BOBBIN WITH LENGTH 40 mm IS STILL ACCEPTABLE



GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

FREE OF BURRS ON FLASHLINE

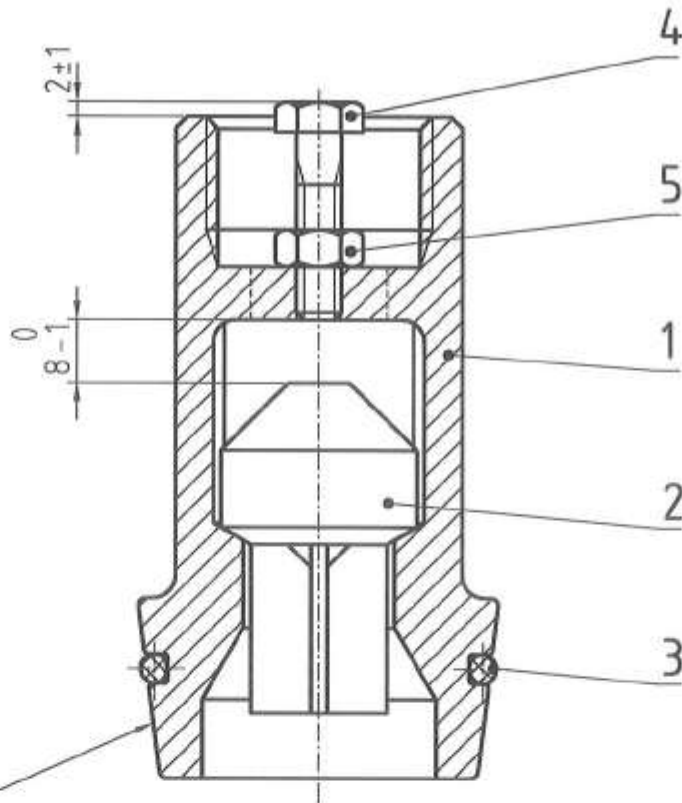
Bobbin	Ø26 x 44	Nitrile rubber	ISO 3302-1 (M2)	70-80 Shore A
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing Bobbin	Scale: 1 : 1	Drawn by: K. Erpf	21.11.97
			Checked by:	02.03.07
			Released by:	07.03.07
International Handpump Specification				C2088



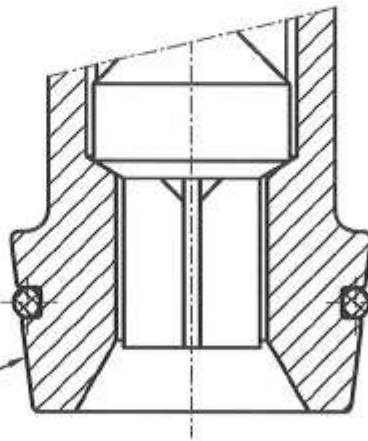
GENERAL TOLERANCE +/-0.5 UNLESS OTHERWISE STATED

(B)

Cup seal	Ø63.5 x 14	Nitrile rubber	ISO 3302-1 (M2)	80-90 Shore A
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing Cup seal	Scale: 1 : 1		
		Drawn by: K.Erpf 11.12.02 Checked by:  05.07.07 Released by:  09.07.07		
International Handpump Specification				C2389



BRASS CASTING
MACHINED
(SEE DRAWING C2759)



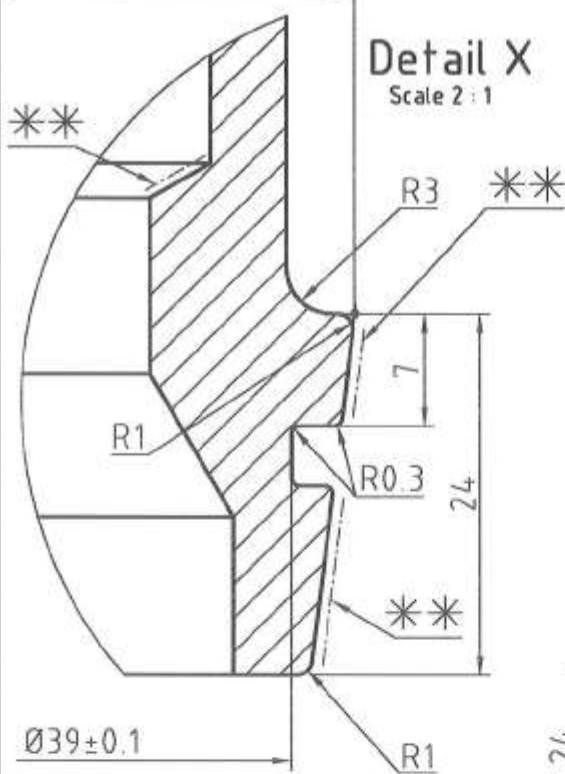
MACHINED OF SOLID
MATERIAL
(SEE DRAWING C2761)



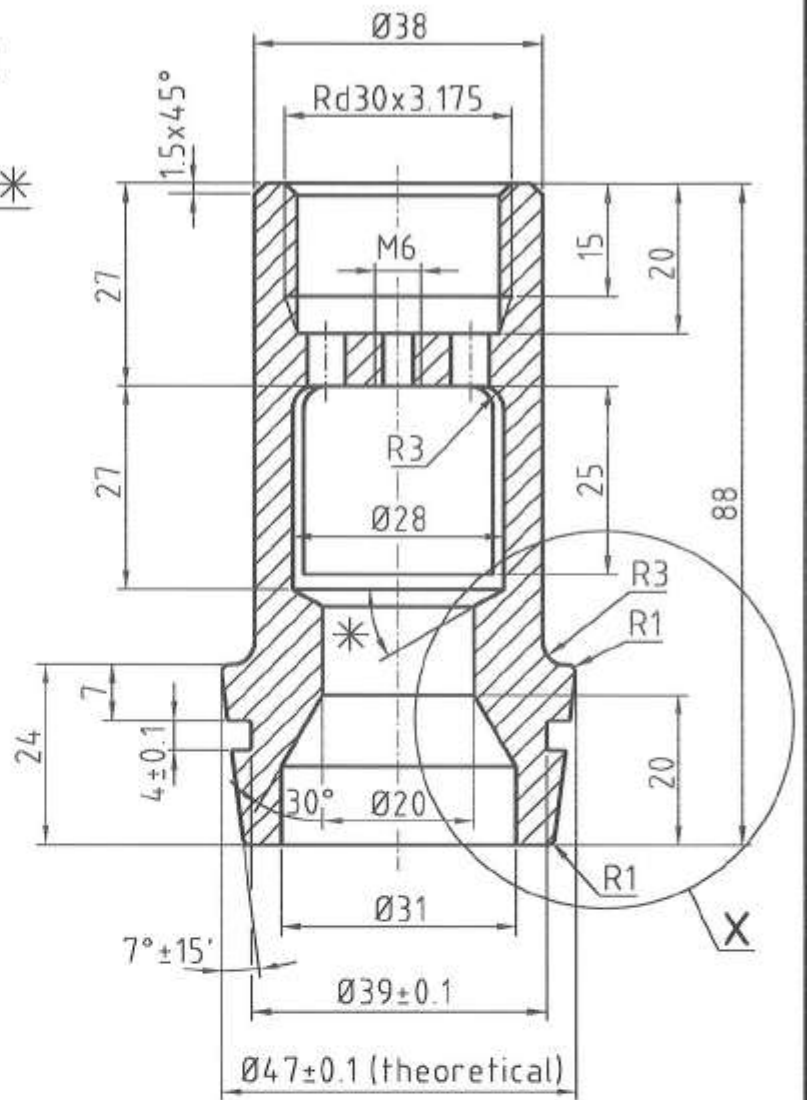
5	1	Hexagonal nut	C1121	M6
4	1	Hexagonal bolt	C1120	M6 x 25
3	1	O-Ring	C1011	---
2	1	Bobbin	C2088	---
1	1	Footvalve body	C2759	or C2761
Pos.	Qty.	Description	Drawing. No.	Remarks

Rural Water Supply Network 	Sub assembly	Type C	Scale:	Drawn by:	K. Erpf	10.03.01
	Footvalve assy.		1:1	Checked by:		02.03.07
				Released by:		07.03.07
International Handpump Specification				A2298		

Ø47±0.1 (theoretical)



Detail X
Scale 2 : 1

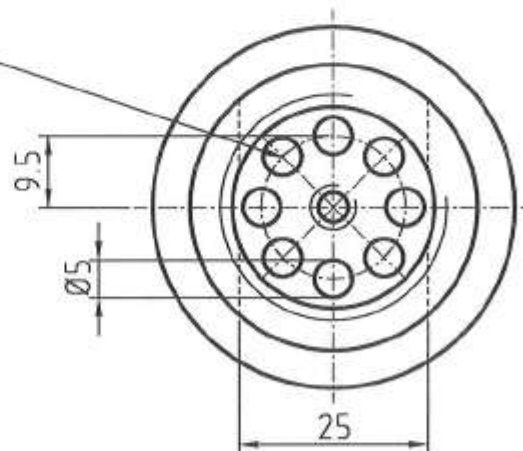


* 30°±30'

** THESE SURFACES TO BE MACHINED SMOOTHLY

THESE HOLES TO BE USED FOR
RELEASING THE WATER COLUMN
WHEN RETRIEVING THE PUMP-
RODS WITH PLUNGER AND
FOOTVALVE ATTACHED

NOTE:
FOOTVALVE MACHINED OF A
CASTING, SEE DRAWING C2759



ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCES +/-0.5 UNLESS OTHERWISE STATED



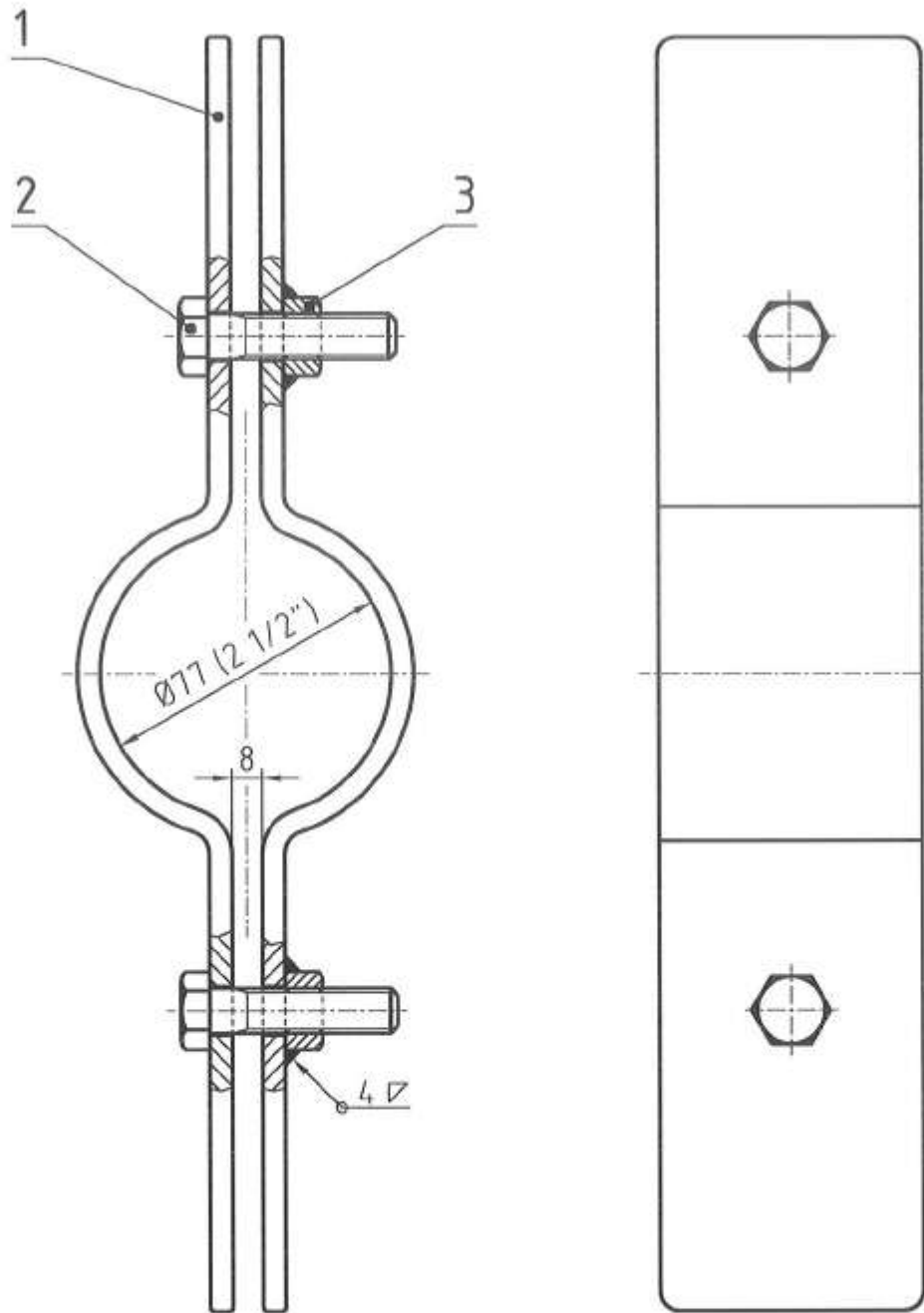
Footvalve body	Ø47 x 88	Copper-zinc alloy	ISO 426-2	CuZn38Pb4 (for castings)
Description	Dimensions	Material	Standards	Remarks

Rural Water Supply Network RWSN	Detail drawing Footvalve body	Scale: 1 : 1 (2 : 1)	Drawn by: K.Erpf 10.03.01
			Checked by: <i>[Signature]</i> 02.03.07
			Released by: <i>[Signature]</i> 07.03.07

International Handpump Specification		C2761
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Additional Installation Tool for the

India Mark III Handpump

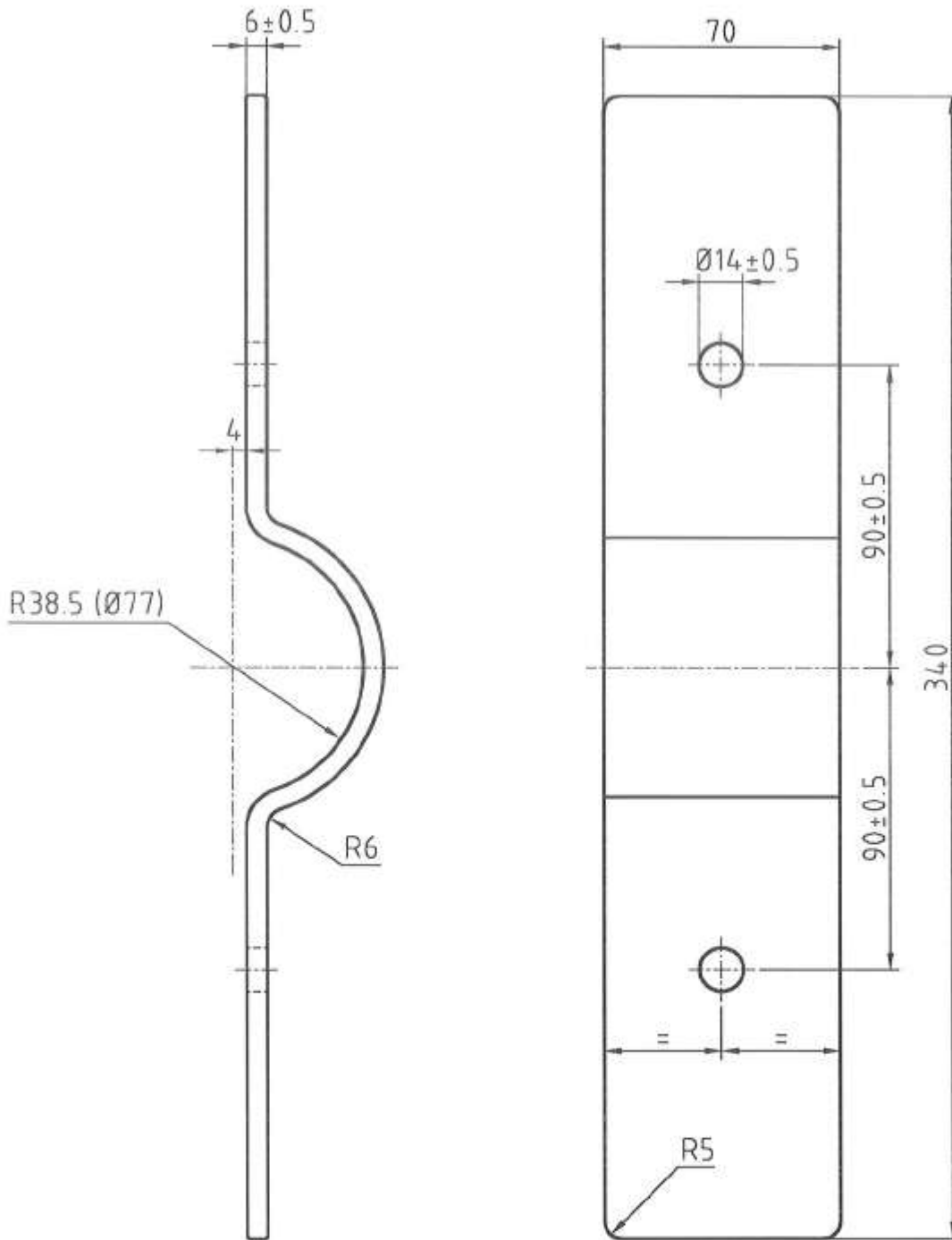


WELDED TO ISO 9692
 ELECTROPLATED TO ISO 2081/82
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

Ⓑ

Pos.	Qty.	Description	Drawing. No.	Remarks
3	2	Hexagonal nut	C1016	for M12
2	2	Hexagonal bolt	C1049	M12 x 50
1	2	Clamp	C2473	---

Rural Water Supply Network RWSN	Sub assembly		Scale: 1 : 2	Drawn by: K. Erpf	25.11.03
	Pipe clamp assembly			Checked by: <i>[Signature]</i>	05.07.07
				Released by: <i>[Signature]</i>	09.07.07
International Handpump Specification				A2472	



LENGTH PRIOR TO BENDING = 370 mm

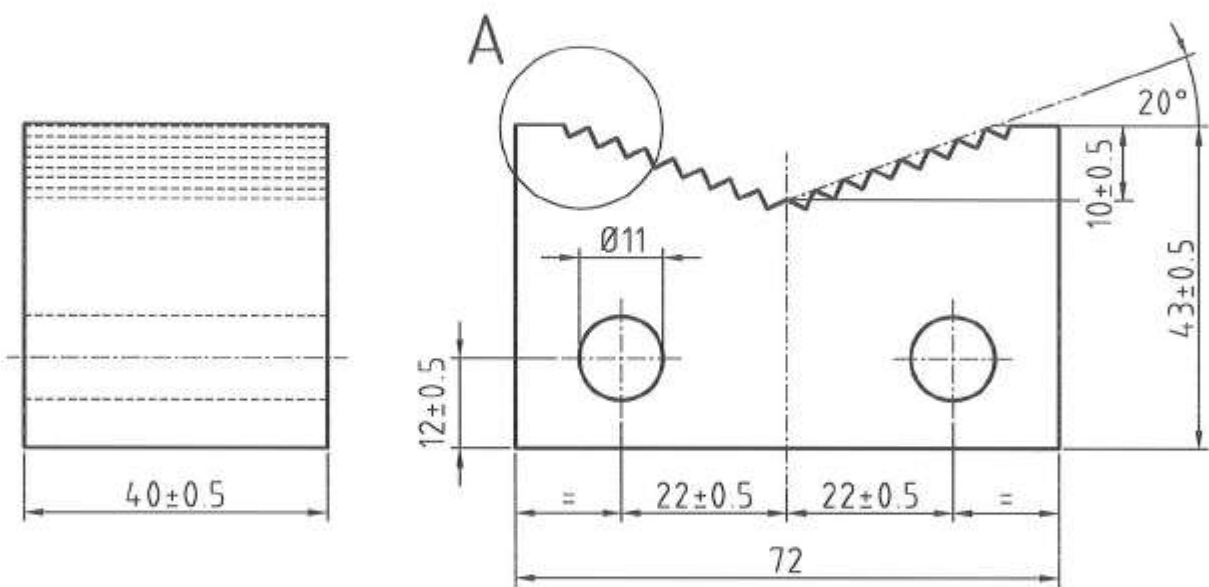
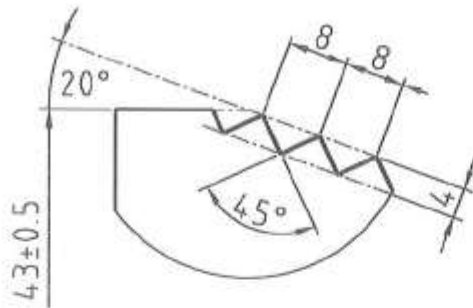
ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 0.2 UNLESS OTHERWISE STATED

(B)

Clamp	6 x 70 x 370	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 2	Drawn by: K.Erpf 27.11.03
	Clamp			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2473

Detail A

(Scale 2:1)



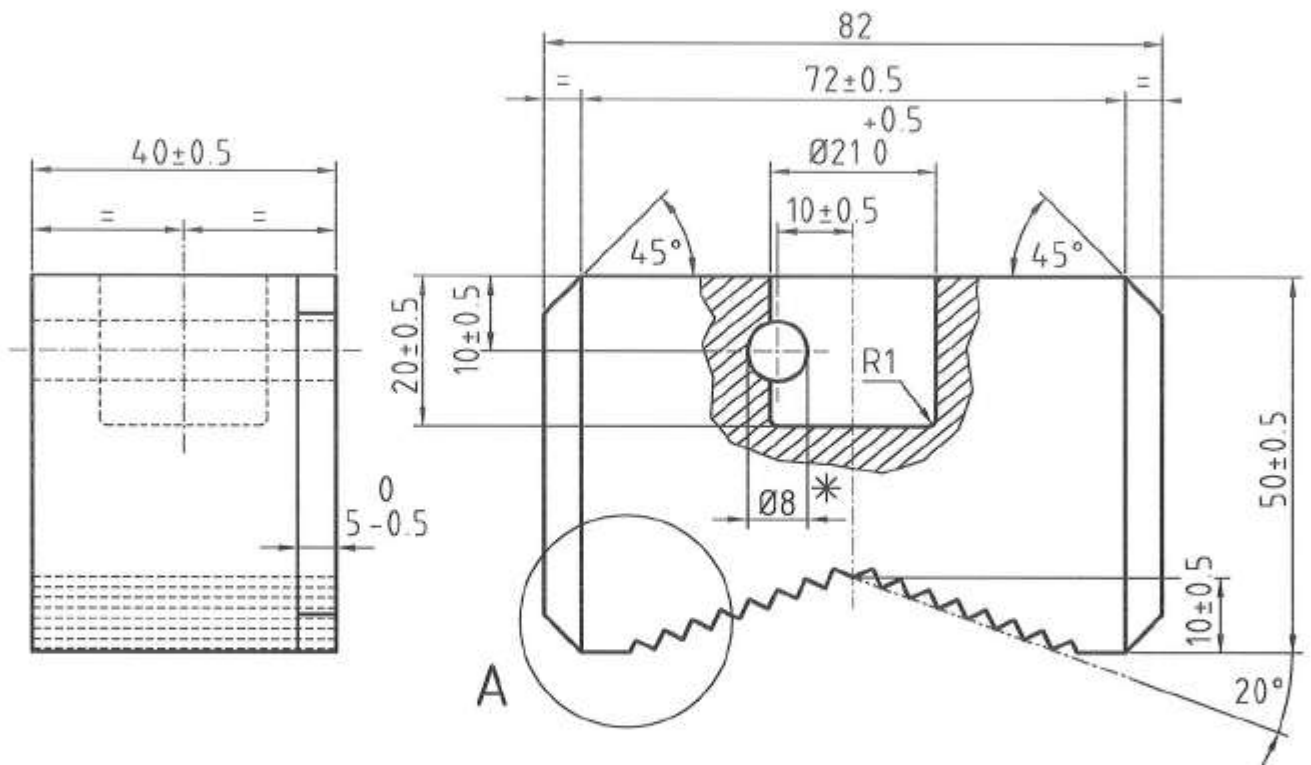
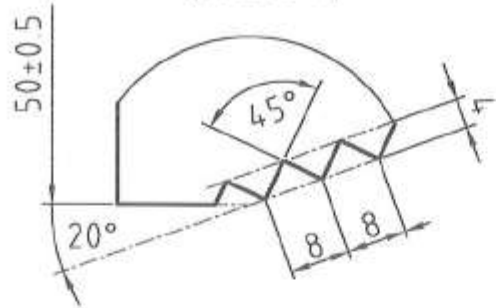
ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(B)

Fixed jaw 2 1/2"	40 x 43 x 72	Tool steel	ISO 630	hardened
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1:1 (2:1)	Drawn by: K.Erpf 12.06.07
	Fixed jaw 2 1/2"			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2521

Detail A

(Scale 2 : 1)

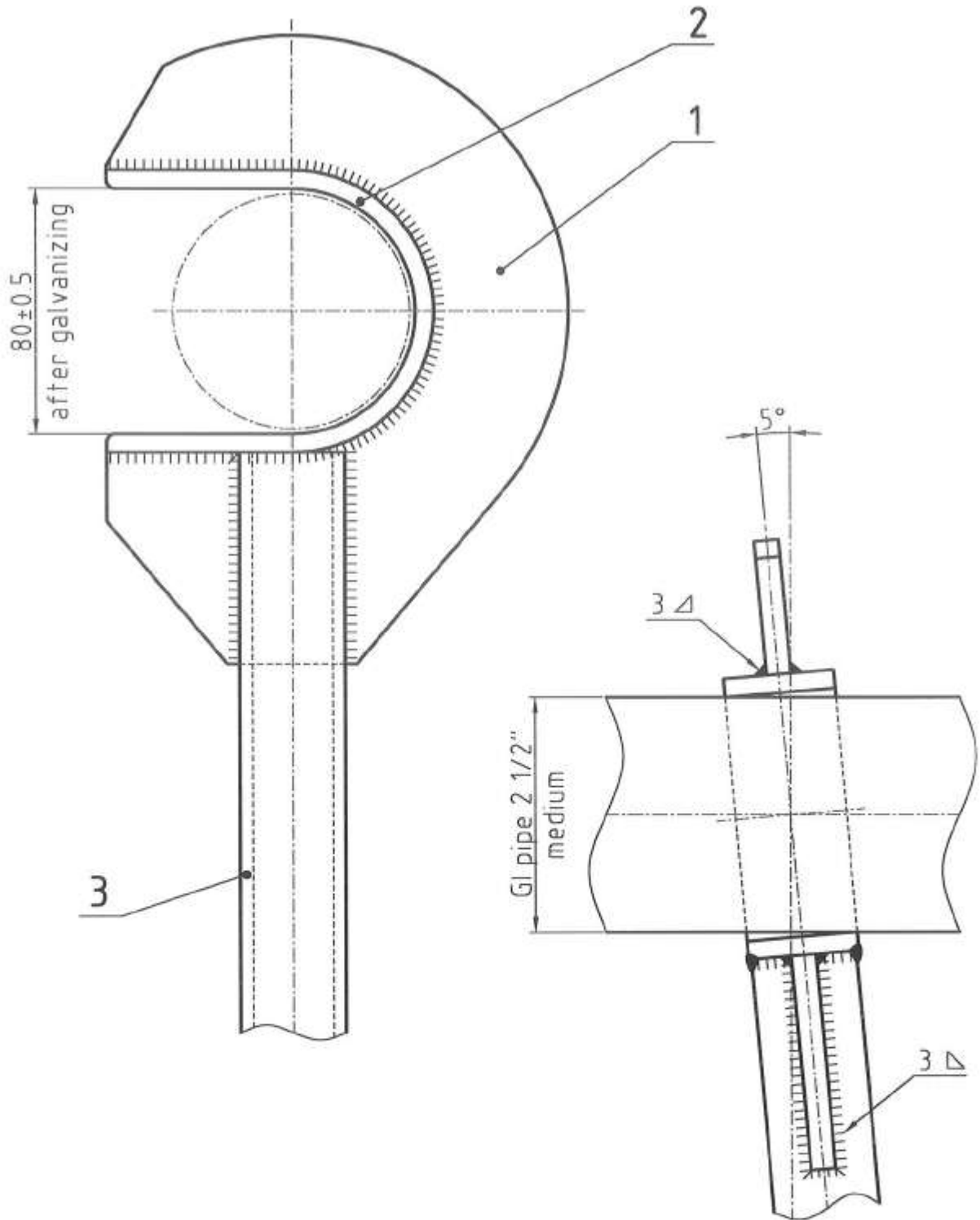


*Press fit with dowel pin C1151

ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(B)

Clamping jaw 2 1/2"	40 x 50 x 82	Tool steel	ISO 630	hardened
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1 (2 : 1)	Drawn by: K.Erpf 12.06.07
	Clamping jaw 2 1/2"			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2522

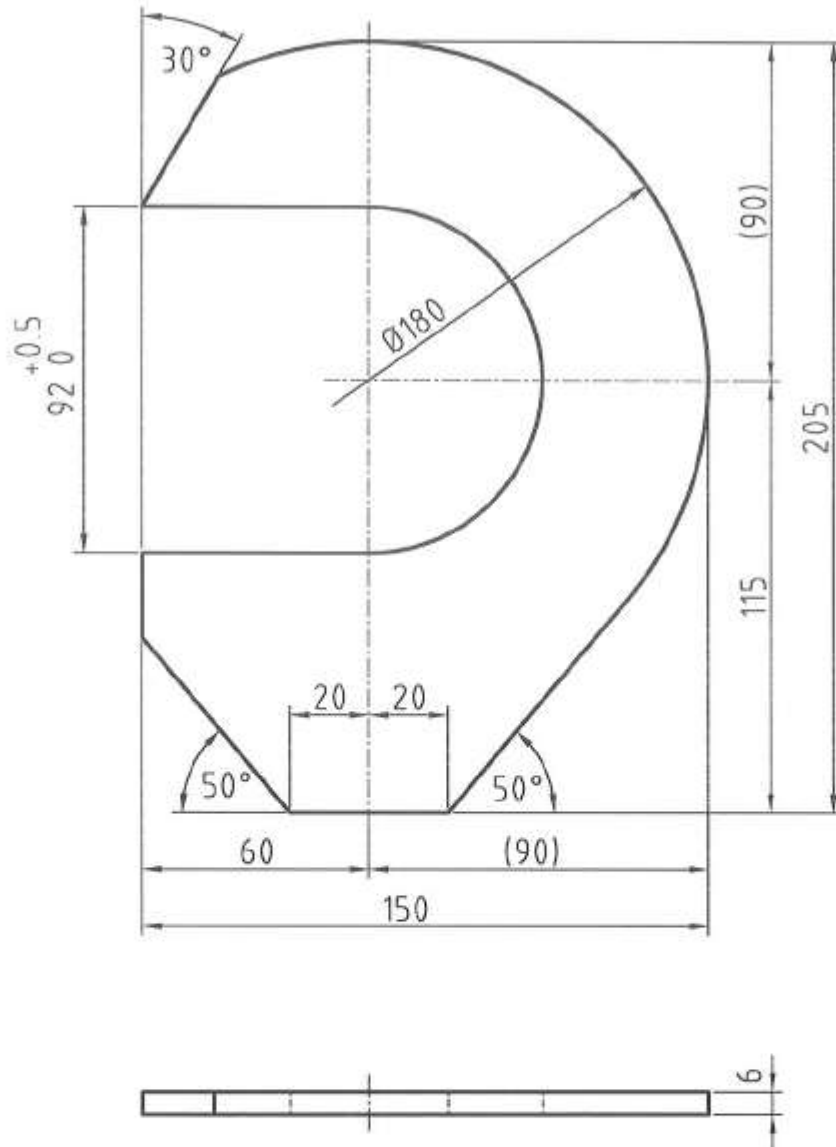


WELDED TO ISO 9692
HOT DIP GALVANIZED TO ISO 1461

(B)

Pos.	Qty.	Description	Drawing No.	Remarks
3	1	Spanner handle	C2538	for Lifting spanner 1 1/4" and 2 1/2"
2	1	Gripping plate	C2537	for GI pipe 2 1/2" (India Mark III Pump)
1	1	Hook plate	C2536	for GI pipe 2 1/2" (India Mark III Pump)

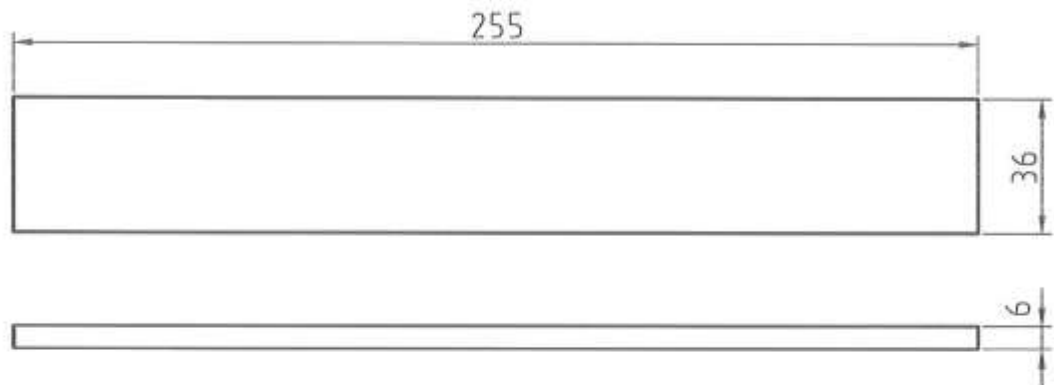
Rural Water Supply Network RWSN	Sub assembly	Scale: 1 : 2	Drawn by: K. Erpf	20.06.07
	Lifting spanner 2 1/2"		Checked by: <i>[Signature]</i>	05.07.07
			Released by: <i>[Signature]</i>	09.07.07
International Handpump Specification			B2535	



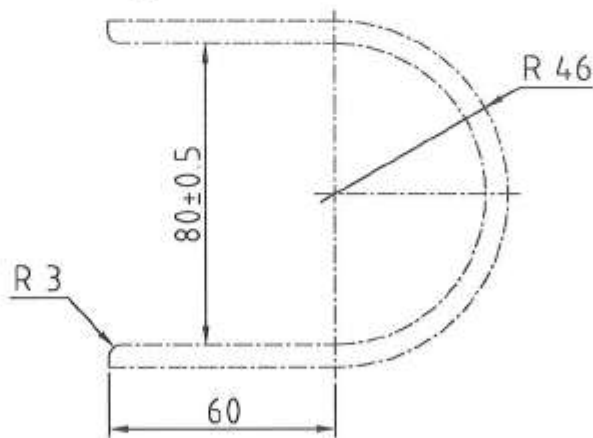
ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(B)

Hook plate	6 x 150 x 205	E 235	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 2	Drawn by: K.Erpf 25.06.07
	Hook plate			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2536



Bending



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 1 UNLESS OTHERWISE STATED

(B)

Gripping plate	6 x 36 x 255	E 235	ISO 630	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 2	Drawn by: K.Erpf 25.06.07
	Gripping plate			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2537

Parts List for the

India Mark III Handpump

Partslist for the India Mark III Handpump with Options. (Revision 2-2007)

Part No	Qty	Description	Dimension	Material	Standard	Remarks
D9099	1	Pump assembly	none	none	none	none
D9192	1	Pump assembly	none	none	none	none
A2303	1	Head arrangement	none	none	none	pre-assembled
B2304	1	Head assembly	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2306	1	Back plate	4 x 98 x 628	E235	ISO 630	machined / bent
C2313	2	Side plate	4 x 345 x 386	E235	ISO 630	machined
C2314	1	Axle bush left	Ø45 x 32	E355	ISO 630	machined
C2316	1	Axle bush right	Ø45 x 25	E355	ISO 630	machined
C2317	1	Bottom end plate	4 x 40 x 90	E235	ISO 630	machined
C2318	1	Top end plate	4 x 80 x 90	E235	ISO 630	machined
C2319	1	Flange	6 x 190 x 250	E235	ISO 630	machined
B2307	1	Bracket assembly	none	none	none	welded to ISO 9692,
C2308	2	Bracket plate	4 x 35 x 151	E235	ISO 630	machined
C2309	1	Bottom plate	4 x 35 x 45.5	E235	ISO 630	machined
C2310	1	Top plate	4 x 46 x 45.5	E235	ISO 630	machined
C2312	2	Filler rod	Ø12 x 50	E185	ISO 630	machined
B2320	1	Front cover assembly	none	none	none	welded to ISO 9692,
C2321	1	Front cover plate	2 x 272 x 450	E235	ISO 630	machined / bent
A2325	1	Handle arrangement	none	none	none	pre-assembled
B2326	1	Handle assembly	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2327	1	Bearing housing	Ø70 x 50	E235	ISO 630	machined
C2328	1	Chain guide	12/12 x 228	E235	ISO 630	machined / bent
C2329	1	Handle bar	32/32 x 1170	E235	ISO 630	machined
B2346	1	Chain assembly	none	none	none	welded to ISO 9692, machined
C2330	1	Chain coupling	Ø50 x 30	E355	ISO 630	machined, electroplated to ISO 2081/82,
C2332	1	Spacer	Ø35/20.2 x 21	E235	ISO 630	machined, electroplated to ISO 2081/82,
C2333	1	Handle axle	Ø25 x 147	Stainless Steel	ISO 15510	machined, X5CrNi 18-9, bright
C2334	1	Axle washer	Ø30/13 x 4	E235	ISO 630	machined, electroplated to ISO 2081/82,
B2335	1	Third plate assembly	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2336	1	Flange	6 x 190 x 250	E235	ISO 630	machined
C2337	1	Guide bush	Ø30 x 40	E355	ISO 630	machined
B2621	1	Water tank assembly	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2622	1	Flange	6 x 190 x 230	E235	ISO 630	machined
C2623	1	Riser pipe holder	Ø85 x 60	E235	ISO 630	machined
C2343	1	Tank pipe	Ø165.1/4.85 x 154	ST 320	ISO 630 (ISO 559)	machined (6" pipe, NB150, medium)
C2344	1	Flange	6 x 190 x 230	E235	ISO 630	machined

Part No	Qty	Description	Dimensio..	Material	Standard	Remarks
C2269	2	Gusset	6 x 30 x 30	E235	ISO 630	machined
C2345	4	Gusset	6 x 40 x 40	E235	ISO 630	machined
B2367	1	Spout assembly	none	none	none	welded to ISO 9692,
C2368	1	Spout pipe	Ø48.4/3.25 x 280	ST 320	ISO 630 (ISO 559)	machined (1 1/2" pipe, NB40, medium)
C2369	1	Spout end	Ø48.4/3.25 x 130	ST 320	ISO 630 (ISO 559)	machined (1 1/2" pipe, NB40, medium)
B2348	1	Stand assembly NB150	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2292	1	Stand pipe	Ø165.1/4.85 x 605	ST 320	ISO 630 (ISO 559)	machined (6" pipe, NB150, medium)
C2053	1	Flange	6 x 190 x 230	E235	ISO 630	machined
C2054	3	Leg	EA 40x40x6-530	E235	ISO 657-1	machined, welded to ISO 9692,
C2052	2	Gusset	6 x 22 x 22	E235	ISO 630	machined
B2221	1	Stand assembly	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2056	1	Stand pipe	Ø185/4 x 526	E235	ISO 630	machined, rolled, welded
C2068	1	Bottom flange	8 x 300 x 300	E235	ISO 630	machined
C2058	4	Gusset	6 x 50 x 100	E235	ISO 630	machined
C2059	1	Gasket	5 x 300 x 300	Nitrile Rubber	ISO 3302-1 (M3)	moulded / 60-70 Shore A
B2083	1	Anchor assembly	none	none	none	welded to ISO 9692,
C2084	8	Fixing rod	Ø8 x 300	E185	ISO 630	machined
A2651	1	Cylinder assembly	none	none	none	none
C2652	1	Cylinder	Ø82 x 304	GG20	ISO 185	cast, machined
C2653	1	Brass liner	Ø65.3/0.9 x 310	Copper-zinc alloy	ISO 426-1	CuZn37 (CuZn20Al2 or CuZn28Sn1)
C2654	1	Upper cap	Ø92 x 100	GG20	ISO 185	cast, machined
C2655	1	Bottom cap	Ø92 x 100	GG20	ISO 185	cast, machined
C2354	2	Sealing ring	Ø78/67 x 4	Nitrile Rubber	ISO 3302-1 (M2)	moulded / 70-80 Shore A
C2665	X	Riser pipe	Ø76.1/3.65 x 3000	ST 320	ISO 630 (ISO 559)	NB32, medium, hot dip galvanized GI pipe (2 1/2")
C2666	X	Socket	Ø82 x 65	ST 320	ISO 630 (ISO 559)	for hot dip galvanized GI pipe (2 1/2")
A2657	1	Plunger assembly	none	none	none	pre-assembled
C2355	1	Plunger body	Ø49 x 53.5	Copper-zinc alloy	ISO 426-2	cast, machined, CuZn38Pb4
C2658	1	Follower	Ø60 x 70	Copper-zinc alloy	ISO 426-2	machined, CuZn38Pb4
C2357	1	Spacer	Ø60 x 29	Copper-zinc alloy	ISO 426-2	machined, CuZn38Pb4
C2358	1	Upper valve	Ø33 x 40	Copper-zinc alloy	ISO 426-2	cast, machined, CuZn38Pb4
C2359	2	Cup seal	Ø63.5 x 14	Nitrile Rubber	ISO 3302-1 (M2)	moulded / 75-85 Shore A
C2360	1	Rubber seating	Ø32/19 x 4	Nitrile Rubber	ISO 3302-1 (M2)	moulded / 70-80 Shore A
A2659	1	Check valve assembly	none	none	none	pre-assembled
C2660	1	Cage	Ø60 x 70	Copper-zinc alloy	ISO 426-2	cast, machined, CuZn38Pb4
C2661	1	Check valve seat	Ø61 x 55	Copper-zinc alloy	ISO 426-2	cast, machined, CuZn38Pb4
C2662	1	Check valve	Ø46 x 48	Copper-zinc alloy	ISO 426-2	machined, CuZn38Pb4
C2663	1	Rubber seating	Ø46/25 x 4	Nitrile Rubber	ISO 3302-1 (M2)	moulded / 70-80 Shore A
C2664	1	Push rod	Ø6 x 86	Stainless Steel	ISO 15510	machined, X5CrNi 18-9, bright

Part No	Qty	Description	Dimensio..	Material	Standard	Remarks
A2370	1	Pumprod arrangement	none	none	none	Mild Steel (MS)
B2373	X	Pumprod assembly	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2372	1	Rod	Ø12 x 2990	E235	ISO 630	machined (bright)
B2555	1	Plunger rod assembly	none	none	none	Stainless Steel (SS)
C2556	1	Rod	Ø12 x 500	Stainless Steel	ISO 15510	machined, X5CrNi 18-9, bright
OPTIONS:						
C2331	1	Bearing housing	60 x 60 x 50	E235	ISO 630	machined
B2347	1	Stand assy. NB175/150	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2378	1	Stand pipe	Ø193.7/4.85 x 345	ST 320	ISO 630 (ISO 559)	machined (7" pipe, NB175, light)
C2379	1	Stand pipe	Ø165.1/4.85 x 255	ST 320	ISO 630 (ISO 559)	machined (6" pipe, NB150, medium)
C2295	1	Reducer NB 175/150	Ø195 x 20	E235	ISO 630	machined
A2386	1	Cylinder assembly	none	none	none	none
C2387	1	Lower cap	Ø90 x 80	GG20	ISO 185	cast, machined
A2388	1	Plunger assembly	none	none	none	pre-assembled
C2757	1	Plunger body	Ø47 x 73	Copper-zinc alloy	ISO 426-2	cast, machined, CuZn38Pb4
C2088	2	Bobbin	Ø26 x 44	Nitrile Rubber	ISO 3302-1 (M2)	moulded / 70-80 Shore A
C2389	1	Cup seal	Ø63.5 x 14	Nitrile Rubber	ISO 3302-1 (M2)	moulded / 80-90 Shore A
A2298	1	Footvalve assembly	none	none	none	pre-assembled
C2759	1	Footvalve body	Ø48 x 88	Copper-zinc alloy	ISO 426-2	cast, machined, CuZn38Pb4
C2761	1	Footvalve body	Ø48 x 88	Copper-zinc alloy	ISO 426-2	machined, CuZn38Pb4
A2380	1	Pumprod arrangement	none	none	none	Stainless Steel (SS)
B2383	1	Pumprod assembly	none	none	none	welded to ISO 9692,
C2382	1	Rod	Ø12 x 2990	Stainless Steel	ISO 15510	machined, X5CrNi 18-9, bright
INSTALLATION AND MAINTENANCE TOOLS						
B2420	1	Connecting tool assembly	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82
C2421	1	Rod	Ø12 x 200	E235	ISO 630	machined
C2422	1	T-bar	Ø12 x 200	E235	ISO 630	machined
A2472	1	Pipe clamp assembly	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82
C2473	2	Clamp	6 x 70 x 370	E235	ISO 630	machined, bent
A2478	1	Bearing mounting assy.	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82
C2479	1	Bearing holder	Ø50 x 38	E355	ISO 630	machined
C2480	1	Pressure plate	Ø50 x 20	E355	ISO 630	machined
C2476	1	Chain support	Ø48.4/4.05 x 60	ST 320	ISO 630 (ISO 559)	machined (1 1/2" pipe, NB40, heavy)
C2477	1	Axle punch	Ø25 x 160	E355	ISO 630	machined
A2515	1	Pipe vice assembly	none	none	none	none
B2516	1	Vice plate assembly	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82

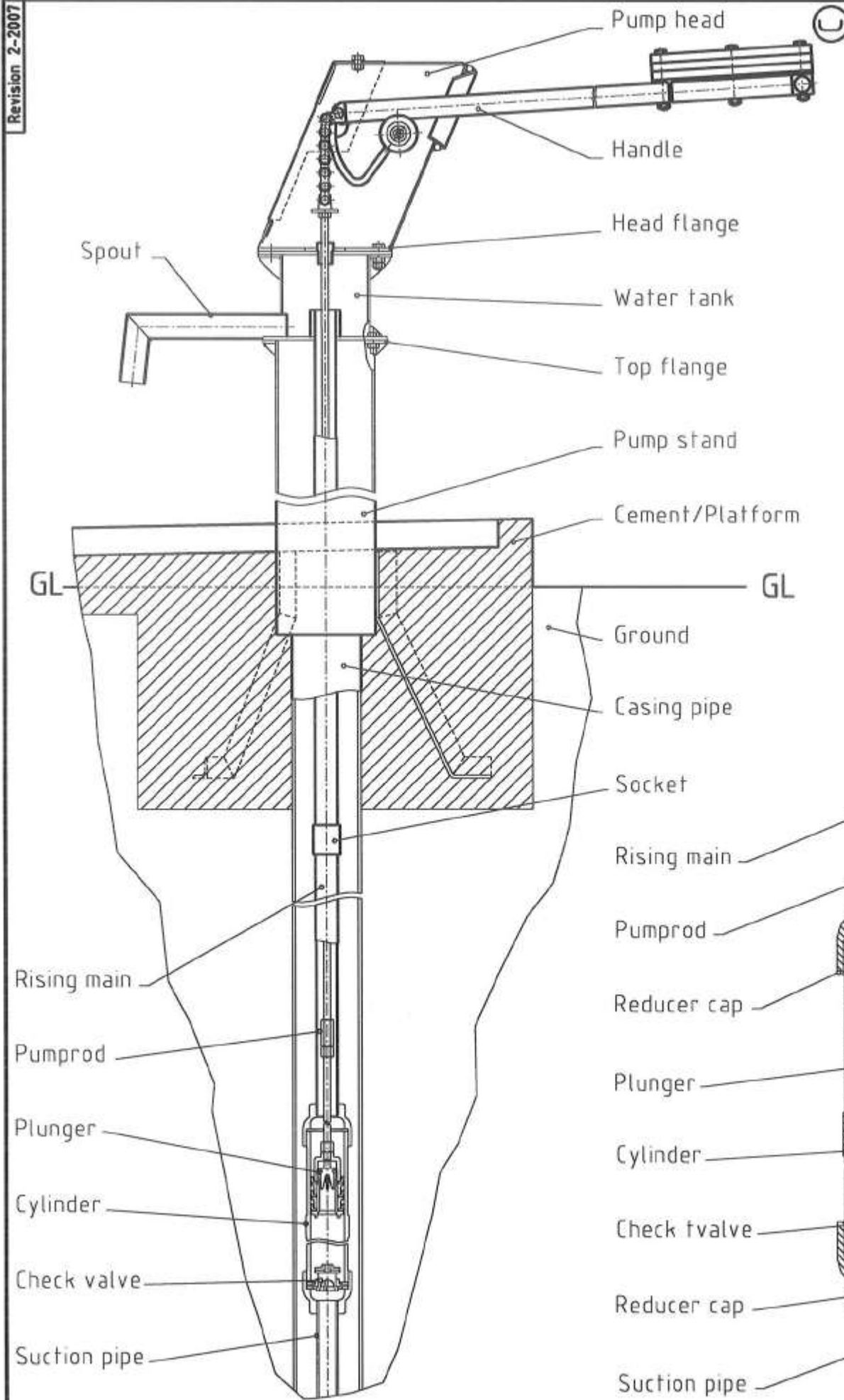
Part No	Qty	Description	Dimensio..	Material	Standard	Remarks
C2517	1	Base plate	12 x 190 x 230	E235	ISO 630	machined
C2518	1	Vice plate	40 x 120 x 257	E235	ISO 630	machined
C2521	1	Fixed jaw, 2 1/2"	40 x 43 x 72	Tool Steel	ISO 630	machined, hardened
C2522	1	Clamping jaw, 2 1/2"	40 x 50 x 82	Tool Steel	ISO 630	machined, hardened
C2523	1	Side plate	6 x 35 x 70	Tool Steel	ISO 630	machined, hardened
C2524	1	Guide	24 x 40 x 65	Tool Steel	ISO 630	machined, hardened
B2557	1	Handle assembly	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82
C2558	1	Spindle	Ø30 x 140	E235	ISO 630	machined
C2559	1	Handle bar	Ø12 x 180	E235	ISO 630	machined
C2560	3	Handle knob	Ø20 x 14	E235	ISO 630	machined
A2443	1	Pumprod vice assembly	none	none	none	none
B2444	1	Vice flange assembly	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82
C2445	1	Flange	6 x 190 x 230	E235	ISO 630	machined
C2446	1	Pressure piece	40 x 50 x 50	E235	ISO 630	machined
C2447	1	Thread piece	30 x 40 x 50	E235	ISO 630	machined
C2413	2	Handle	Ø8 x 172	E235	ISO 630	machined, bent
B2448	1	Handle assembly	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82
C2449	1	Spindle	Ø30 x 140	E235	ISO 630	machined
B2535	1	Lifting spanner, 2 1/2"	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461
C2536	1	Hook plate	6 x 150 x 205	E235	ISO 630	machined
C2537	1	Gripping plate	6 x 36 x 255	E235	ISO 630	machined
C2538	1	Spanner handle	33.8/4.05 x 1200	ST 320	NB25 (1"), heavy	GI pipe, hot dip galvanized
C1152	2	Spanner (New Standard)	16 A/F	Chrome alloy	none	for hex. bolts and & of M10 (New ISO Standard)
C1137	2	Spanner	17 A/F	Chrome alloy	none	for hexagonal bolts and nuts of M10
C1153	2	Spanner (New Standard)	18 A/F	Chrome alloy	none	for hex. bolts and & of M12 (New ISO Standard)
C1005	2	Spanner	19 A/F	Chrome alloy	none	for hexagonal bolts and nuts of M12
C1081	2	Spanner	24 A/F	Chrome alloy	none	for hexagonal bolts and nuts of M16
STANDARD PARTS:						
C1011	1	O-Ring	Ø39.0 x 4.0	Nitrile Rubber	ISO 3601/1	moulded / 65-75 Shore A, (standard size)
C1012	X	Hexagonal coupler	M12 x 20	Class 8.8	ISO 4032	none
C1014	1	O-Ring	Ø50.0 x 4.0	Nitrile Rubber	ISO 3601/1	moulded / 65-75 Shore A, (standard size)
C1015	X	Hexagonal coupler	M12 x 50	Class 8.8	ISO 4032	none
C1016	23	Hexagonal nut	M12	Class 8.8	ISO 4032	none
C1017	8	Hexagonal bolt	M12 x 40	Class 8.8	ISO 4014/4017	none
C1030	1	Hexagonal bolt	M12 x 20	Class 8.8	ISO 4017	none
C1032	1	Chain	25.4 (1") Pitch	Spring Steel	ISO 4348	ISO Chain No. 16-B
C1033	1	Hexagonal bolt	M10 x 40	Class 8.8	ISO 4014/4017	none

Part No	Qty	Description	Dimensio..	Material	Standard	Remarks
C1034	1	Hexagonal lock nut	M10	Steel/Polyamide	ISO 7040	none
C1035	2	Ball bearing	Ø47/20 x 14	6204-2Z	ISO 15	(Toyota Koyo UK 6204 RS)
C1036	1	Hexagonal bolt	M12 x 100	Class 8.8	ISO 4014	none
C1049	2	Hexagonal bolt	M12 x 50	Class 8.8	ISO 4014	none
C1053	X	Hexagonal coupler	M12 x 20	Stainless Steel	ISO 4032	X5CrNi 18-9
C1055	X	Hexagonal coupler	M12 x 50	Stainless Steel	ISO 4032	X5CrNi 18-9
C1069	4	Washer (M16)	Ø30/17 x 3	Brass	ISO 7089	none
C1114	4	Hexagonal bolt	M16 x 150	Stainless Steel	ISO 4014	X5CrNi 18-9
C1121	1	Hexagonal nut	M6	Stainless Steel	ISO 4032	X5CrNi 18-9
C1130	4	Hexagonal nut	M16	Brass	ISO 7089	none
C1150	4	Hexagonal bolt	M10 x 50	Class 8.8	ISO 4017	none
C1151	3	Dowel pin	Ø8 x 40	Tool Steel	ISO 2338	hardened

Engineering Drawings for the

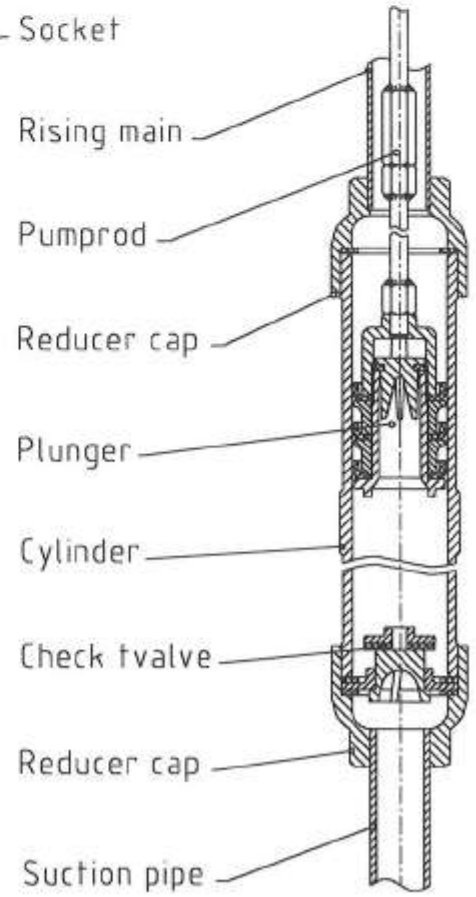
India Mark II Extra Deepwell Handpump

Revision 2-2007

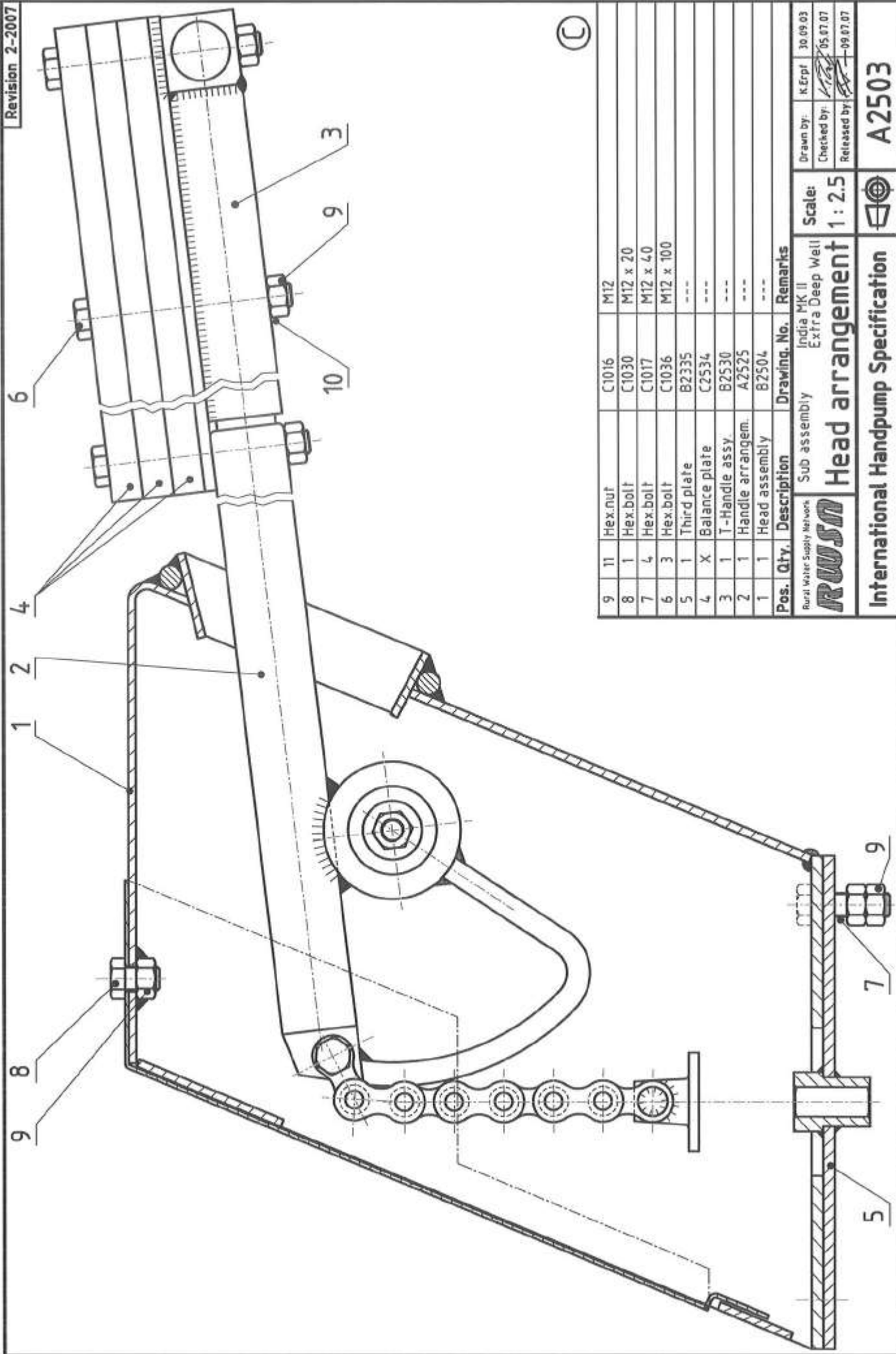


C

Drawn by: K. Erpi	11.09.02		India Mark II Extra Deep Well Pump assembly	Scale: 1 : 10 (1 : 5)		D9166
Checked by: [Signature]	05.07.07					
Released by: [Signature]	09.07.07					
International Handpump Specification						



Scale 1 : 5



©

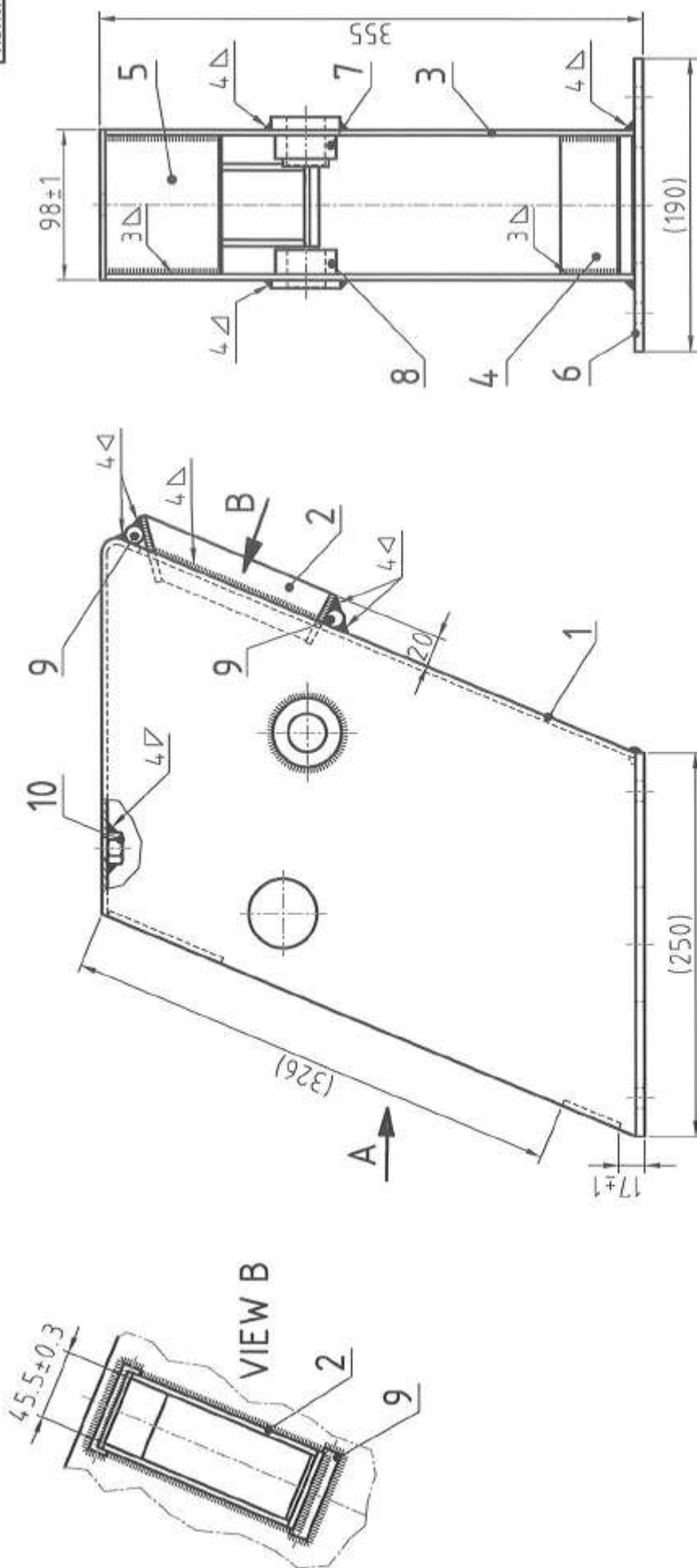
Pos. Qty.	Description	Drawing No.	Remarks
9	11	Hex.nut	C1016
8	1	Hex.bolt	M12
7	4	Hex.bolt	M12 x 20
6	3	Hex.bolt	M12 x 40
5	1	Third plate	M12 x 100
4	X	Balance plate	B2335
3	1	T-Handle assy.	C2534
2	1	Handle arrangem.	B2530
1	1	Head assembly	A2525
			B2504

Rural Water Supply Network
RUWSSN
 Sub assembly
Head arrangement
 India MK II
 Extra Deep Well

Scale: 1:2.5

Drawn by: K.Erpf 30.09.03
 Checked by: 05.07.07
 Released by: 09.07.07

International Handpump Specification **A2503**



VIEW A



REAMING OF THE LEFT AND RIGHT AXLE BUSHES SHALL BE DONE TO ENSURE INTERNAL DIMENSIONS AND ALIGNMENT (AFTER HOT DIP GALVANIZING). THE HEAD ASSEMBLY SHALL BE WELDED FROM INSIDE AND OUTSIDE.

HOT DIP GALVANIZED TO ISO 14-61 (EXCEPT POS. 14./15)

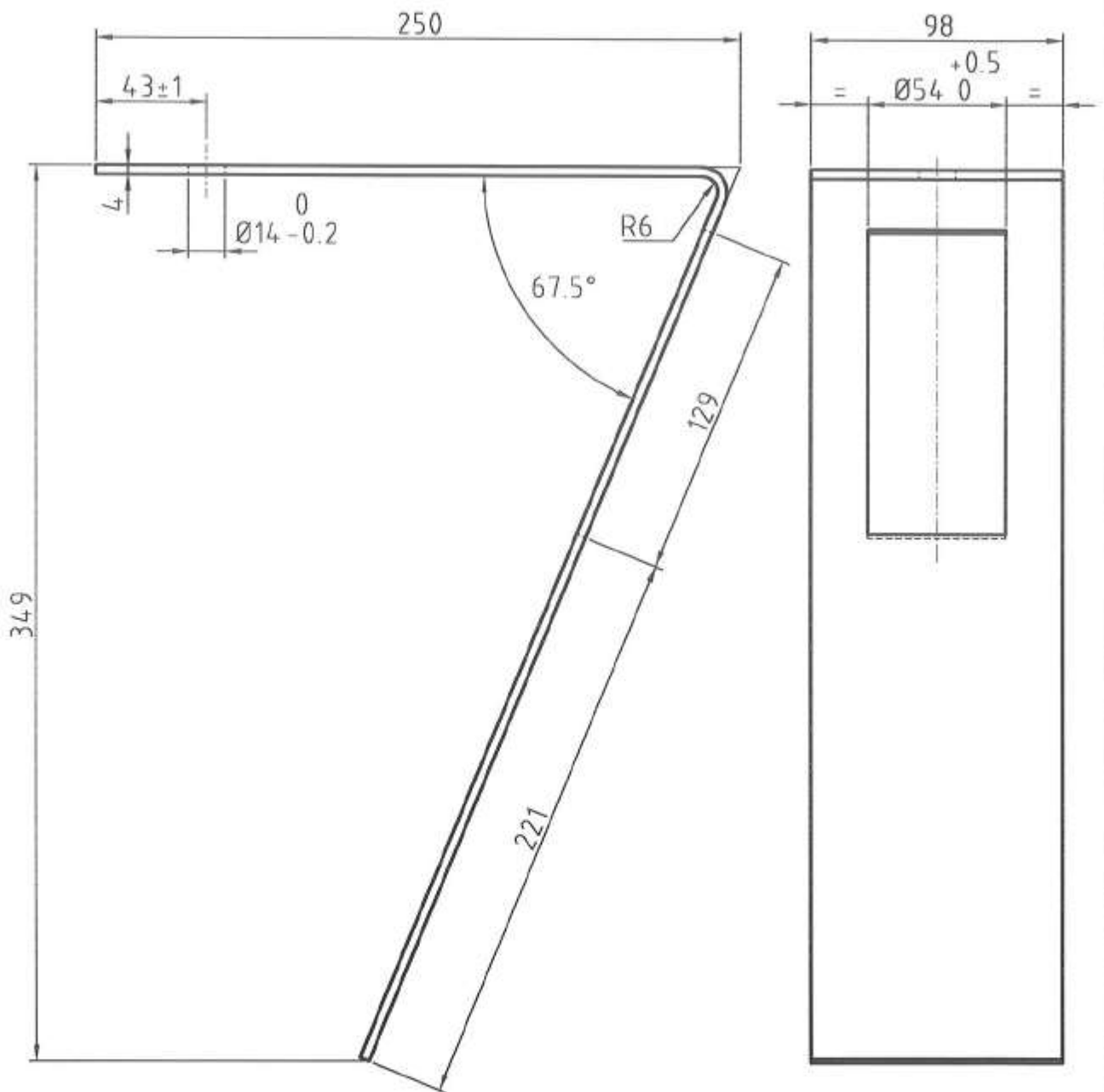
GENERAL TOLERANCE +/-2 UNLESS OTHERWISE STATED

5	1	Top end plate	C2318	---	Remarks
4	1	Bottom end plate	C2317	---	
3	2	Side plate	C2313	---	
2	1	Bracket assembly	B2507	---	
1	1	Back plate	C2506	---	

Pos. Qty. Description		Drawing No.	Remarks
Rural Water Supply Network			
Sub assembly			
RWSN Head assembly			
Scale:		1 : 4	
Drawn by:		K Erpf	30.09.03
Checked by:		[Signature]	05.07.07
Released by:		[Signature]	09.07.07

10	1	Hex nut	C1016	M12	Remarks
9	2	Filler rod	C2512	---	
8	1	Axle bush right	C2316	---	
7	1	Axle bush left	C2314	---	
6	1	Flange	C2319	---	

International Handpump Specification		B2504	
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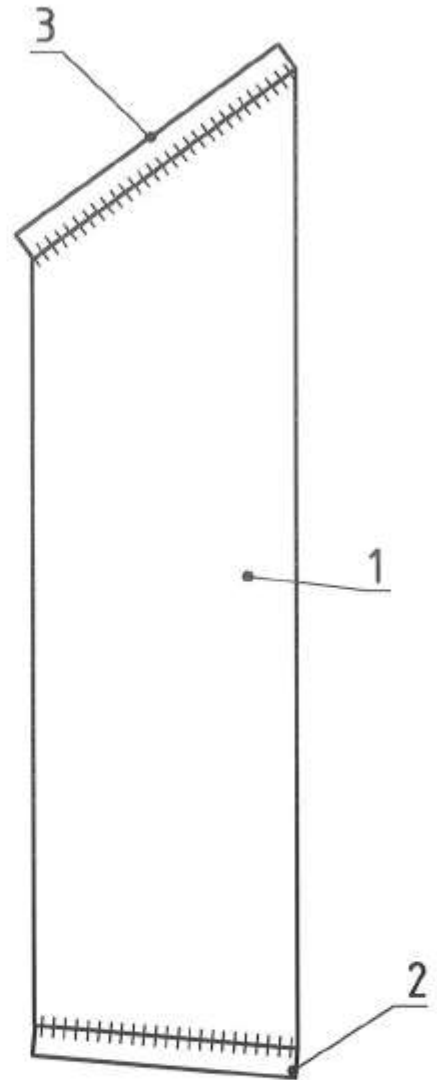
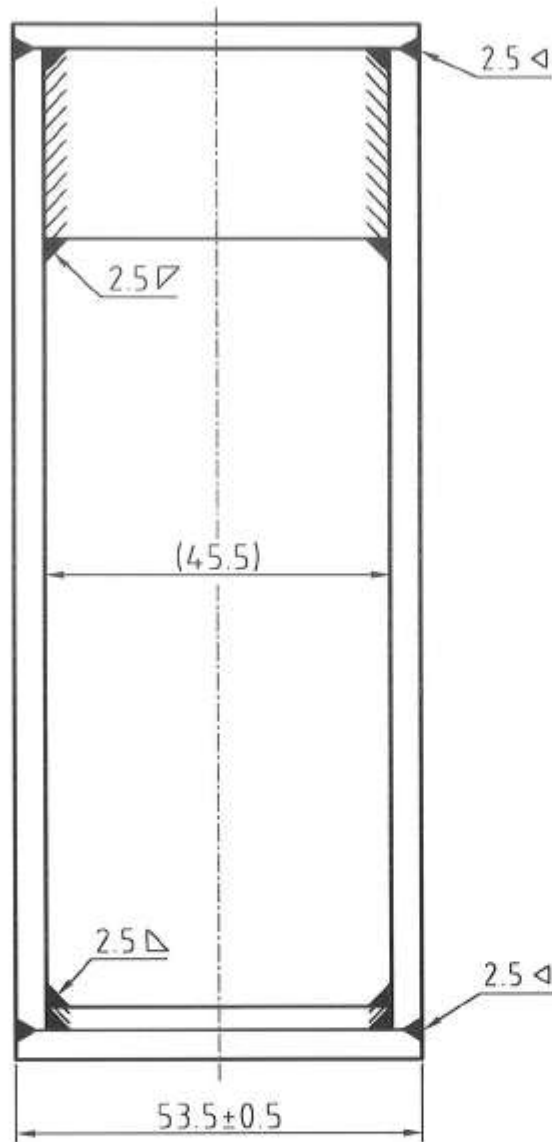


LENGTH PRIOR TO BENDING= 628 ± 2

ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE ± 0.5 UNLESS OTHERWISE STATED



Description	Dimensions	Material	Standards	Remarks
Back plate	4 x 98 x 628	E 235	---	---
Rural Water Supply Network 		Detail drawing Back plate		Scale: 1 : 2.5
				Drawn by: t.leder 15.03.97 Checked by: 05.07.07 Released by: 09.07.07
International Handpump Specification				C2506

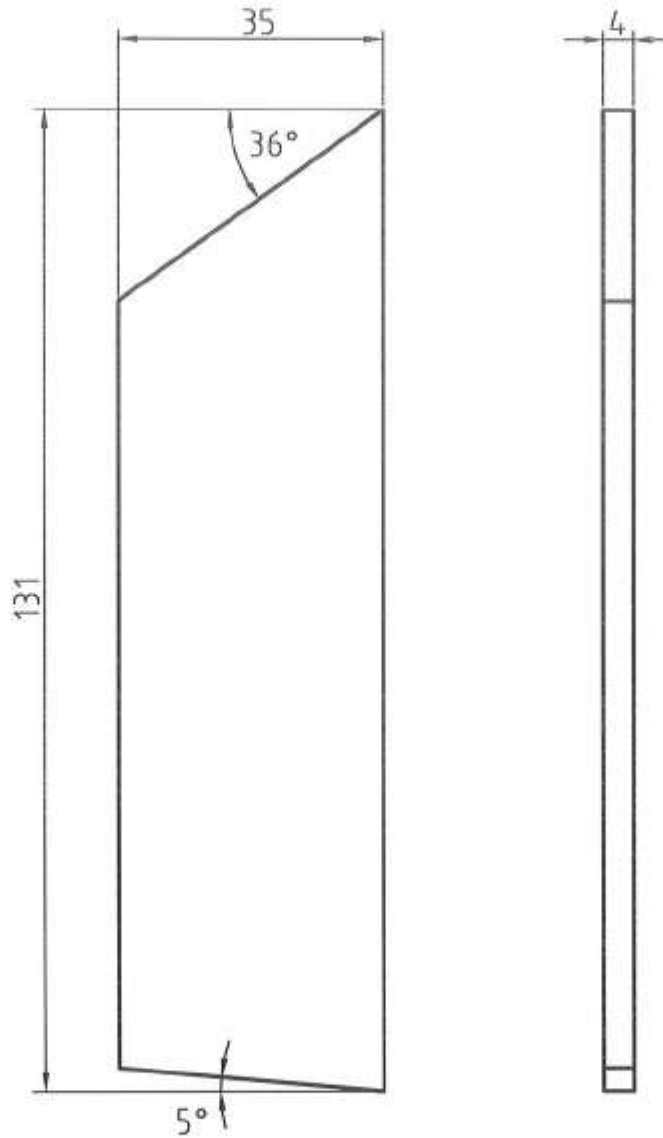


WELDED TO ISO 9692
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED



Pos.	Qty.	Description	Drawing. No.	Remarks
3	1	Top plate	C2510	---
2	1	Bottom plate	C2509	---
1	2	Bracket plate	C2508	---

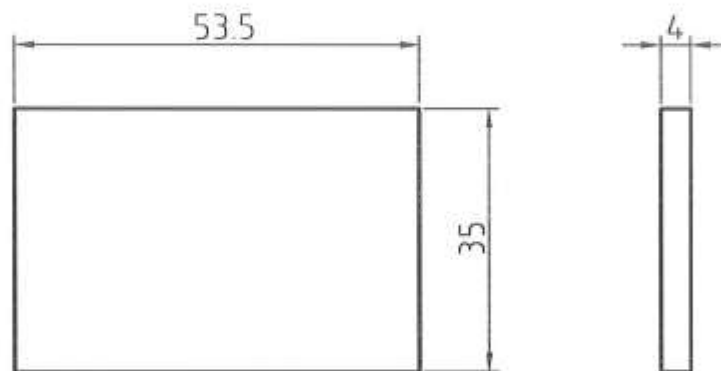
Rural Water Supply Network RWSN	Sub assembly		Scale: 1 : 1	Drawn by: K.Erpf	03.01.00
	Bracket assembly			Checked by: <i>[Signature]</i>	05.07.07
				Released by: <i>[Signature]</i>	09.07.07
International Handpump Specification				B2507	



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 0.5 UNLESS OTHERWISE STATED



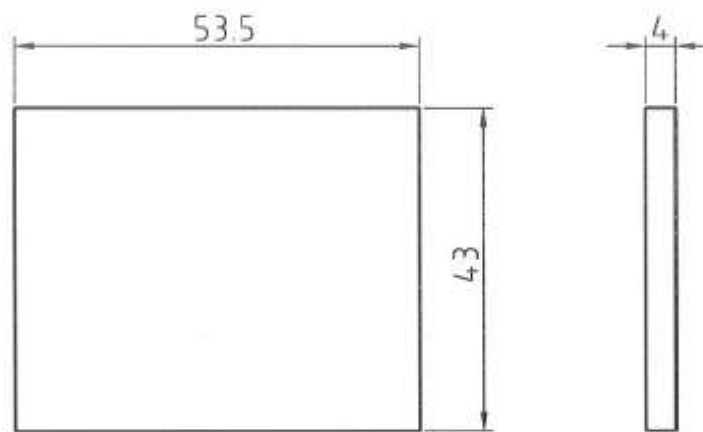
Bracket plate	4 x 35 x 131	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: t.leder. 15.03.97
	Bracket plate			Checked by: <i>[Signature]</i> 05.07.07
			Released by: <i>[Signature]</i> 09.07.07	
International Handpump Specification				C2508



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-0.5 UNLESS OTHERWISE STATED



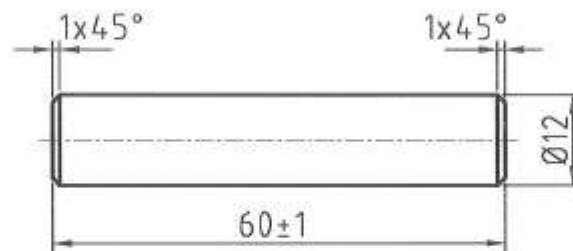
Bottom plate	4 x 35 x 53.5	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: f.leder. 15.03.97
	Bottom plate			Checked by: 05.07.07
				Released by: 09.07.07
International Handpump Specification				C2509



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-0.5 UNLESS OTHERWISE STATED







Top plate	4 x 43 x 535	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: f.leder. 15.03.97
	Top plate			Checked by: 05.07.07
				Released by: 09.07.07
International Handpump Specification				C2510

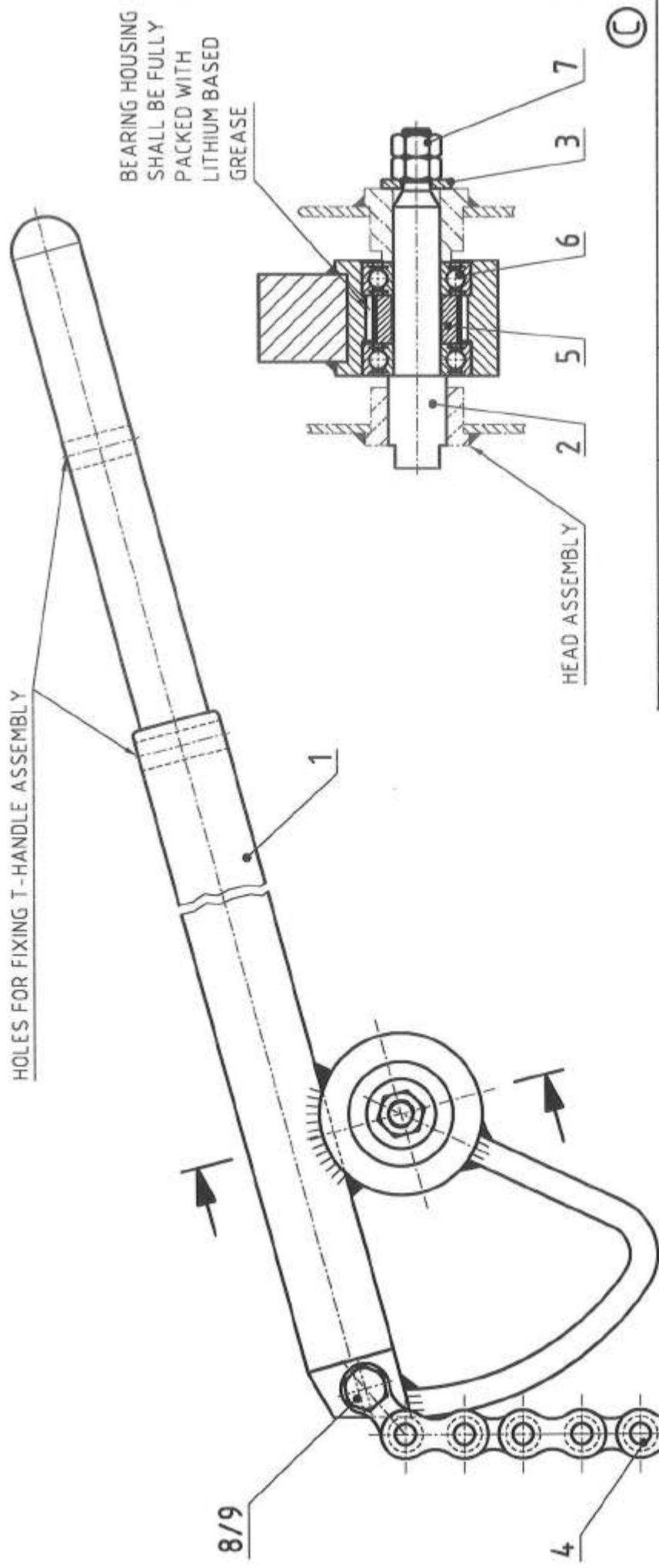


ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE ± 0.5 UNLESS OTHERWISE STATED



Filler rod	Ø12 x 60	E 185	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1:1	Drawn by: K.Erpf 26.09.03
	Filler rod			Checked by:  05.07.07
				Released by:  09.07.07
International Handpump Specification				C2512

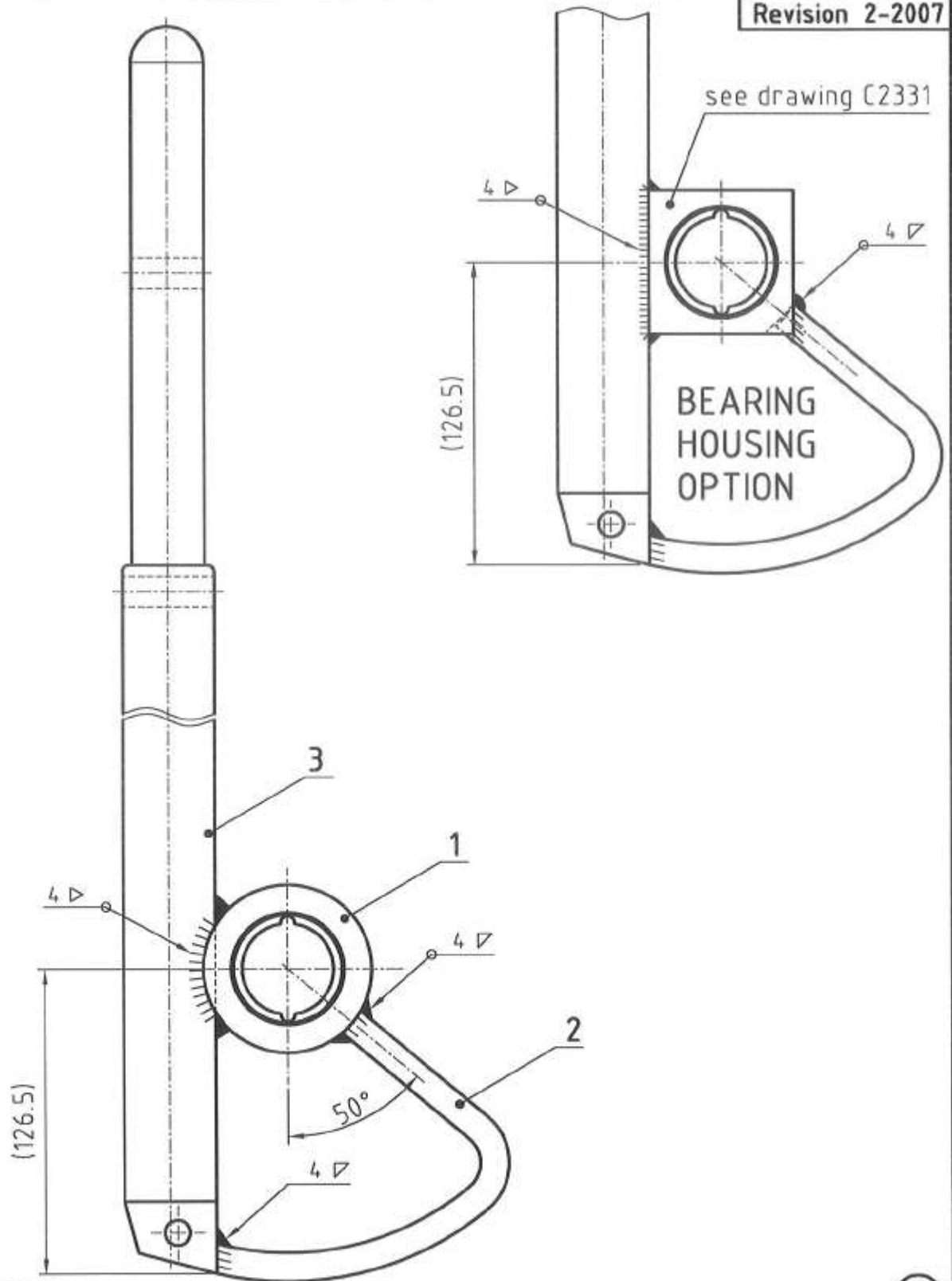
HOLES FOR FIXING T-HANDLE ASSEMBLY



9	1	Hex. lock nut	C1034	M10
8	1	Hex.bolt	C1033	M10x40
7	2	Hex.nut	C1016	M12
6	2	Ball bearing	C1035	---
5	1	Spacer	C2332	---
4	1	Chain assembly	C2330	---
3	1	Axle washer	C2334	special
2	1	Handle axle	C2333	---
1	1	Handle assembly	B2526	---

Pos.	Qty.	Description	Drawing No.	Remarks
Sub assembly				
Rural Water Supply Network				
RWSN				
Handle arrangement				
Scale: 1 : 2.5				
Drawn by: K.Erpf 15.02.00				
Checked by: 05.07.07				
Released by: 09.07.07				

International Handpump Specification A2525



WELDED TO ISO 9692

GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

HOT DIP GALVANIZED TO ISO 1461



3	1	Handle bar	C2529	---
2	1	Chain guide	C2328	---
1	1	Bearing housing	C2527	---
Pos.	Qty.	Description	Drawing. No.	Remarks

Rural Water Supply Network



Sub assembly

Handle assembly

Scale:

1 : 2.5

Drawn by: K.Erpf 15.02.00

Checked by: *[Signature]* 05.07.07

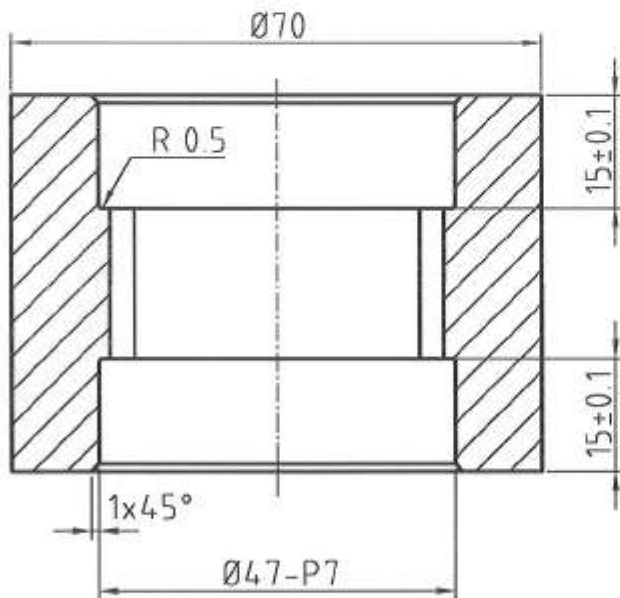
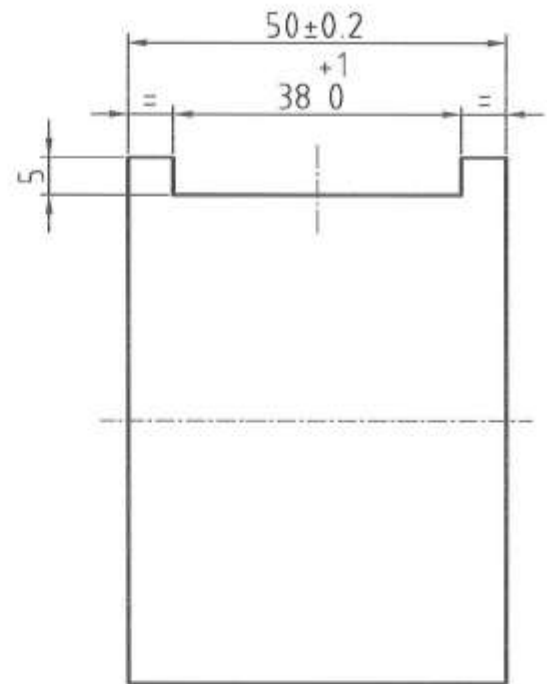
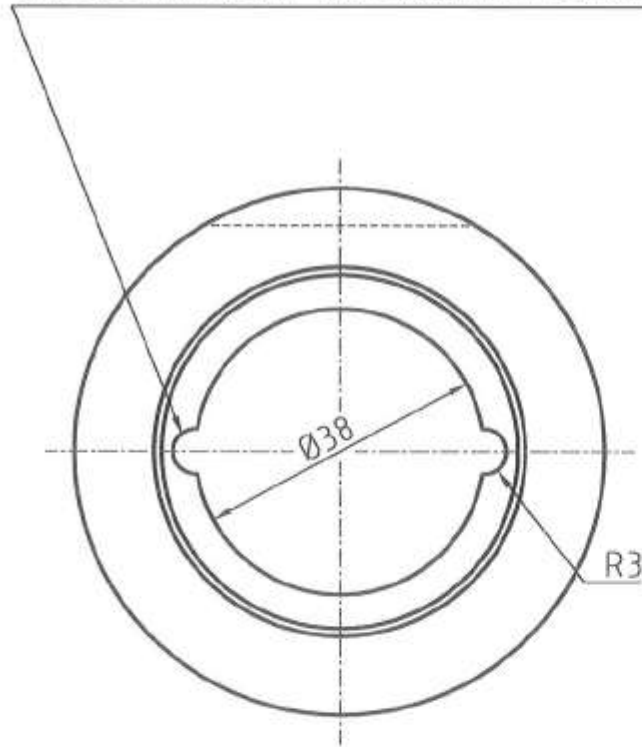
Released by: *[Signature]* 09.07.07

International Handpump Specification



B2526

NOTE:
THESE GROOVES ARE USED FOR REMOVAL OF BALL BEARINGS, IF REPLACEMENT IS NEEDED.

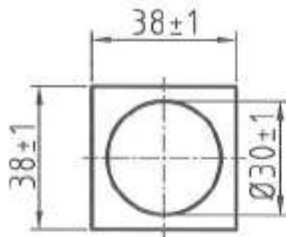


SEE ALSO OPTION C2331

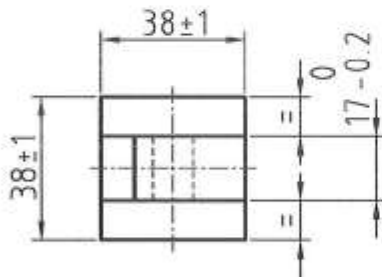
ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE ± 0.5 UNLESS OTHERWISE STATED



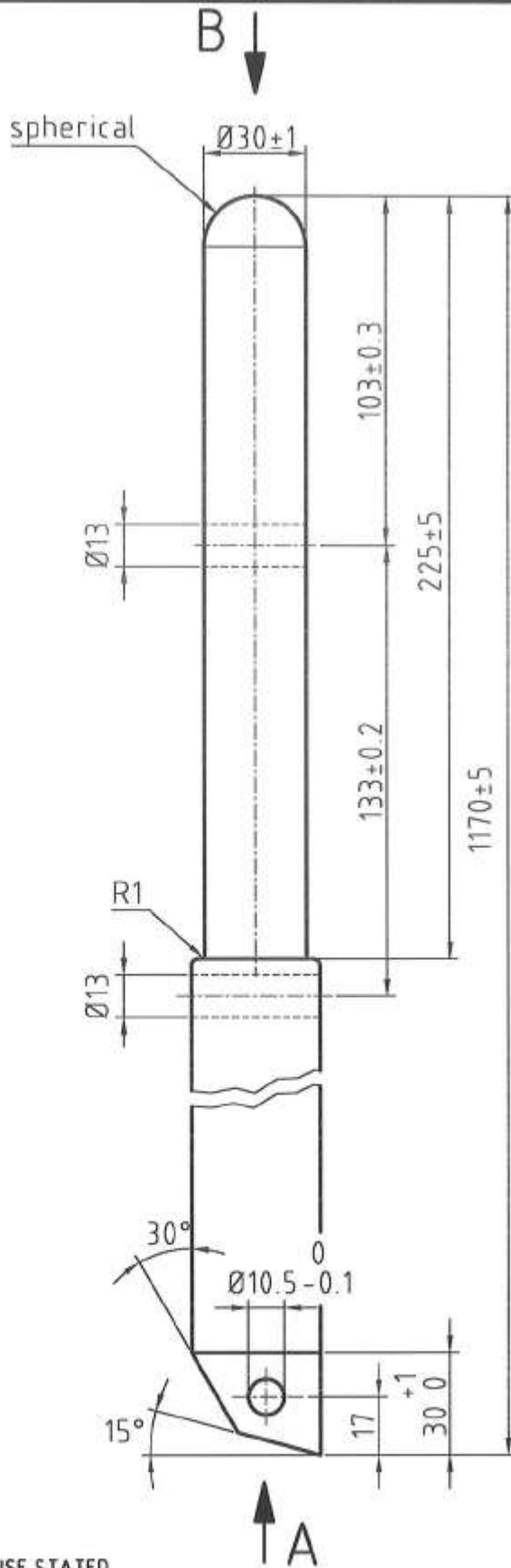
Bearing housing	Ø70 x 50	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: t.leder. 15.03.97
	Bearing housing			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2527



View B



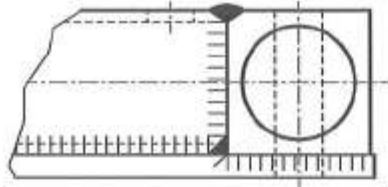
View A



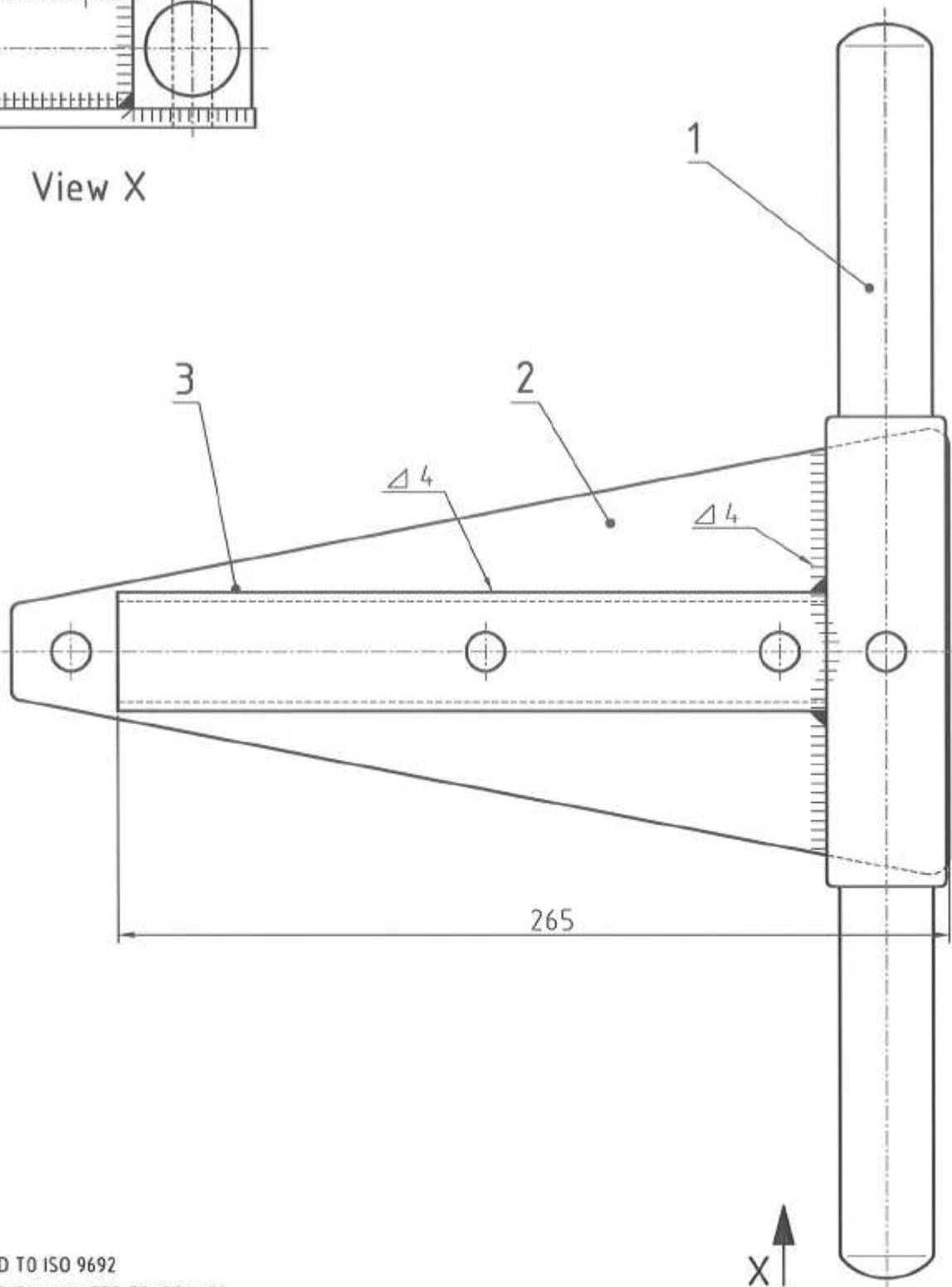
ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE ± 0.5 UNLESS OTHERWISE STATED



Handle bar	38/38 x 1170	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 2	Drawn by: K.Erpf 15.02.00
	Handle bar			Checked by: 05.07.07
				Released by: 09.07.07
International Handpump Specification				C2529



View X



WELDED TO ISO 9692
 HOT DIP GALVANIZED TO ISO 1461
 GENERAL TOLERANCE +/-2 UNLESS OTHERWISE STATED

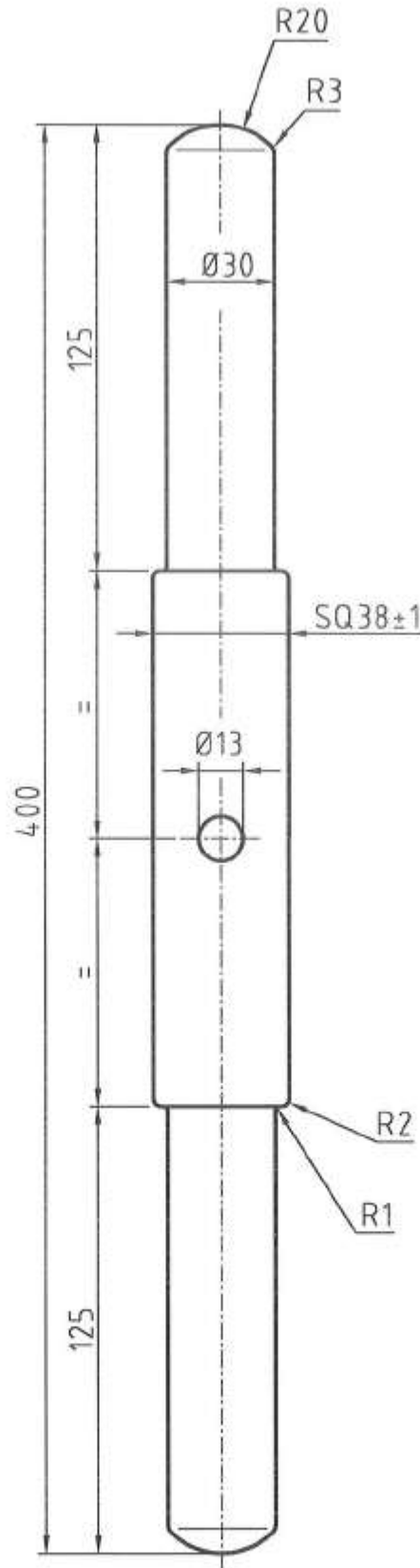


3	1	Tube	C2533	---
2	1	Plate	C2532	---
1	1	T-Bar	C2531	---

Pos.	Qty.	Description	Drawing. No.	Remarks
------	------	-------------	--------------	---------

Rural Water Supply Network RWSN	Sub assembly		Scale: 1 : 2	Drawn by: K.Erpf	03.10.03
	T-Handle assembly			Checked by: <i>[Signature]</i>	05.07.07
				Released by: <i>[Signature]</i>	09.07.07

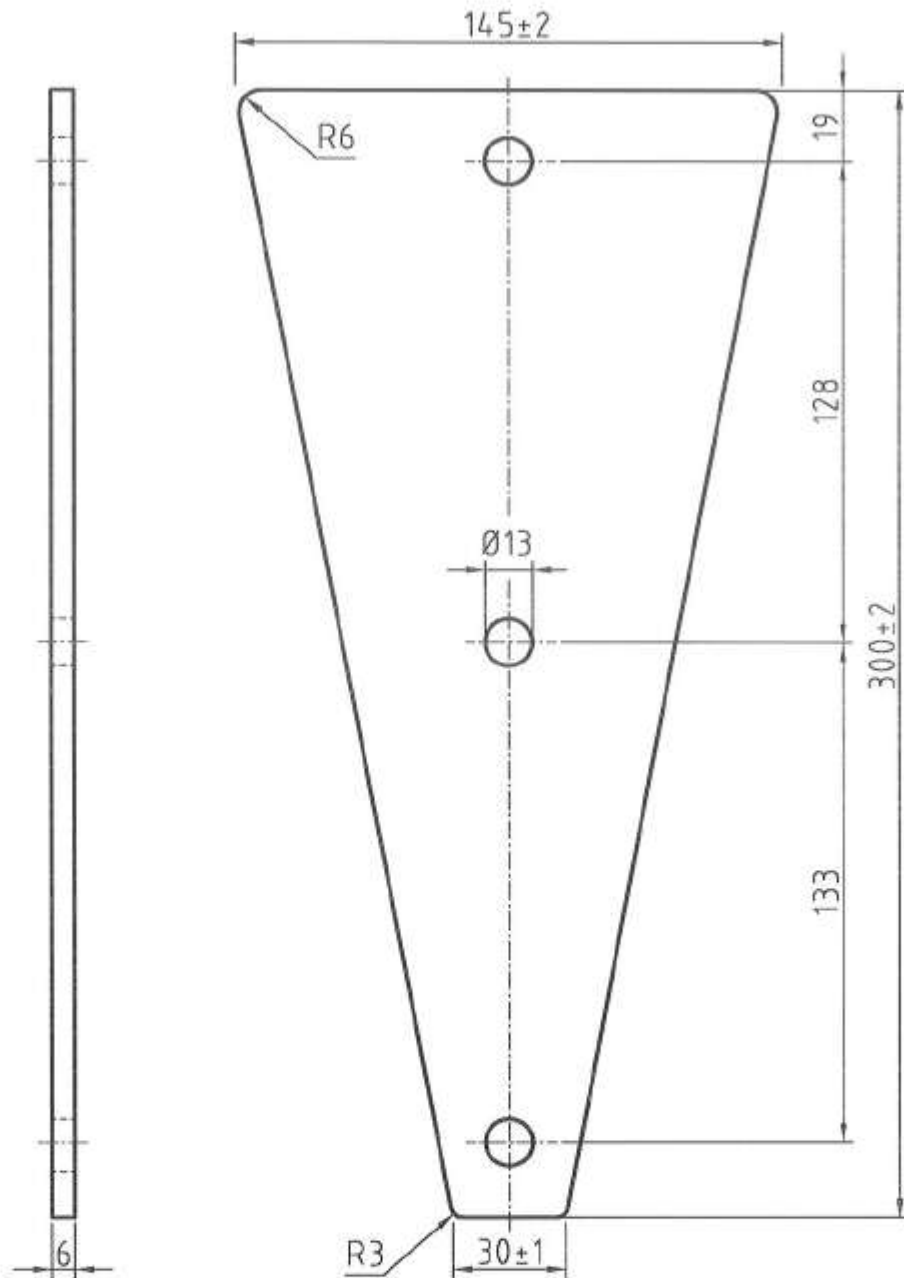
International Handpump Specification		B2530
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ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES ± 0.5 UNLESS OTHERWISE STATED



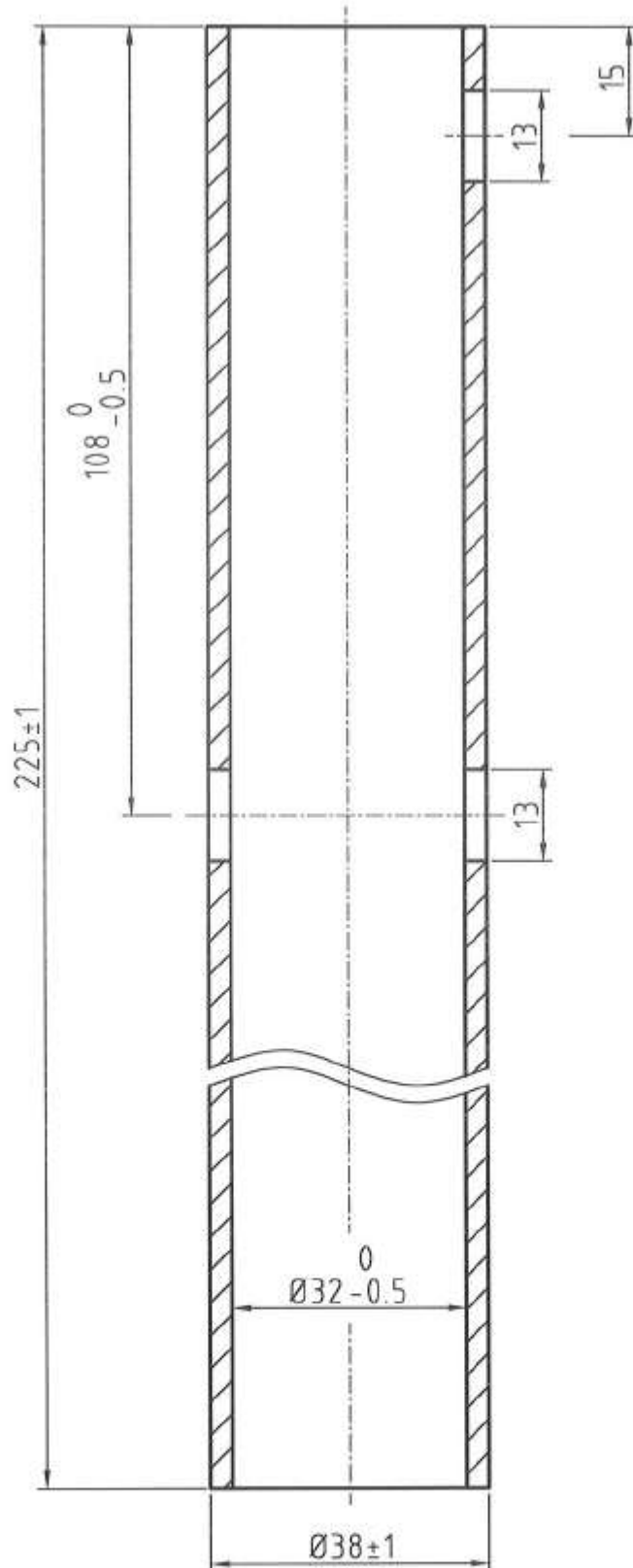
T-Bar	38/38 x 400	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 2	Drawn by: t.leder 15.03.97
	T-Bar			Checked by: 05.07.07
				Released by: 09.07.07
International Handpump Specification				C2531



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES +/-0.5 UNLESS OTHERWISE STATED



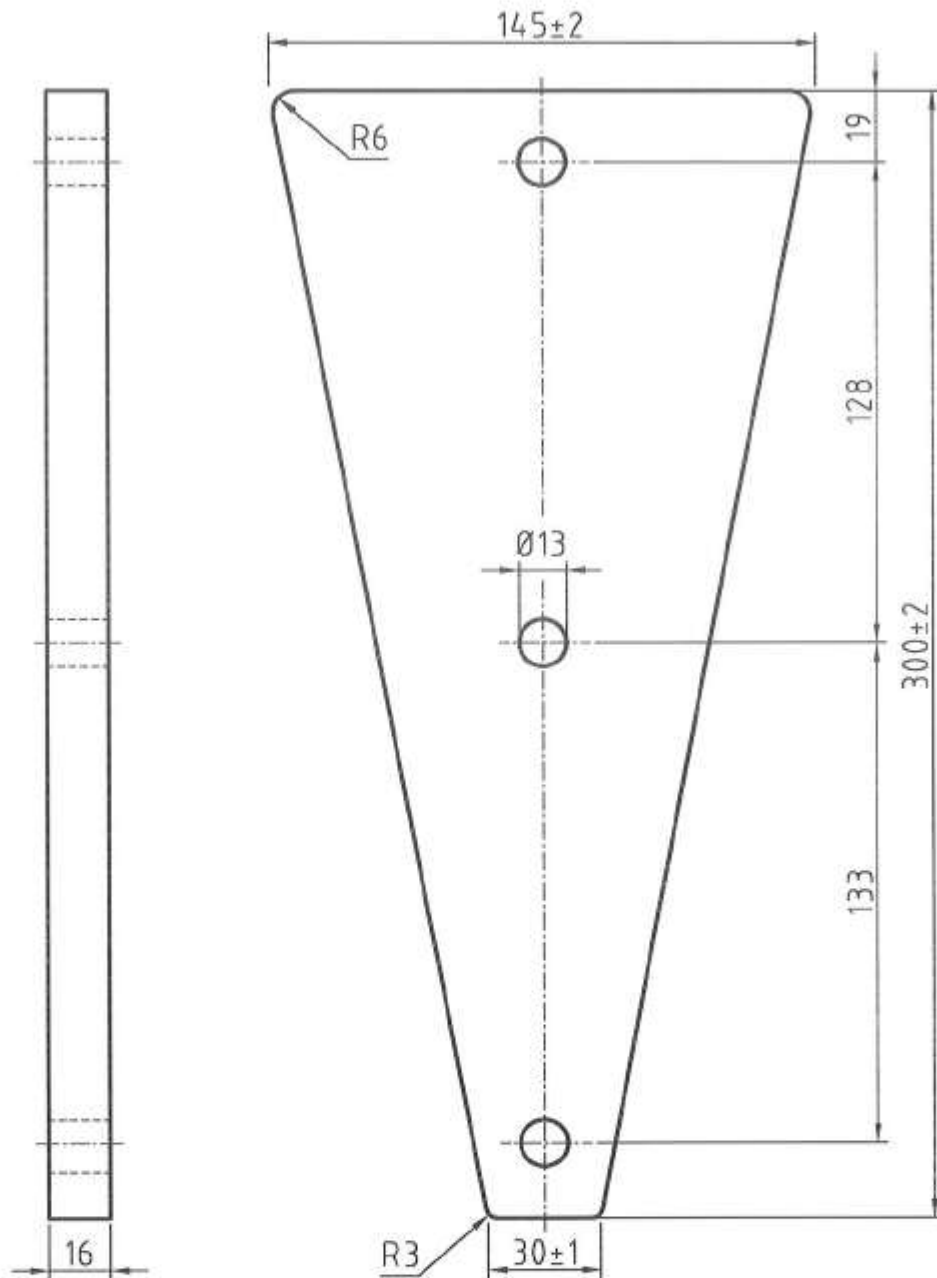
Plate	6 x 145 x 300	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 2	Drawn by: f.leder. 15.03.97
	Plate			Checked by: 05.07.07
				Released by: 09.07.07
International Handpump Specification				C2532



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES ± 0.5 UNLESS OTHERWISE STATED



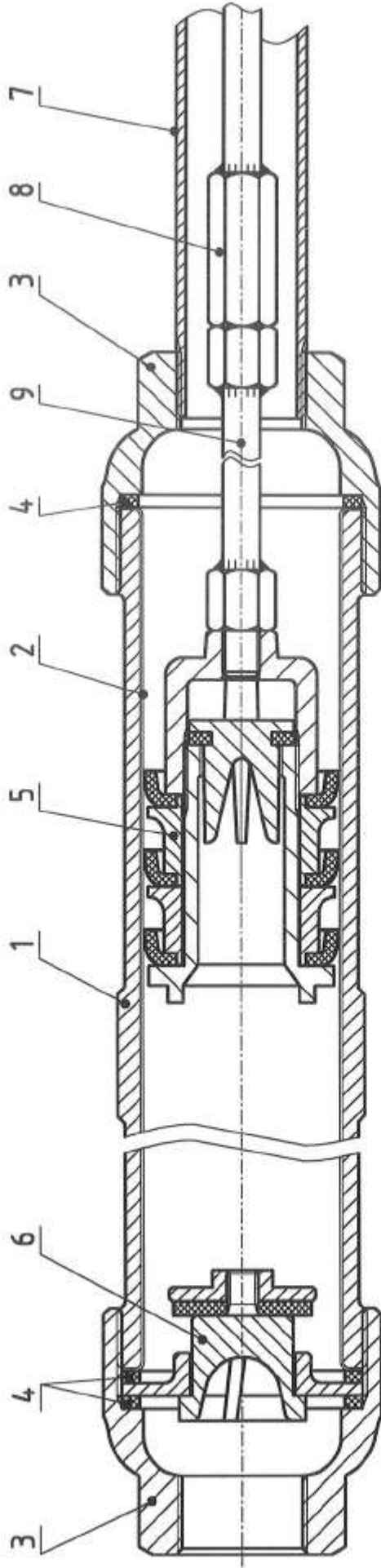
Tube	$\text{Ø}38/3 \times 225$	ST 320	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: f.leder. 15.03.97
	Tube			Checked by: 05.07.07
				Released by: 09.07.07
International Handpump Specification				C2533



HOT DIP GALVANIZED TO ISO 1461
 ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES +/- 0.5 UNLESS OTHERWISE STATED



Balance plate	16 x 145 x 300	E 185	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 2	Drawn by: t.leder 15.03.97
	Balance plate			Checked by: 05.07.07
				Released by: 09.07.07
International Handpump Specification				C2534

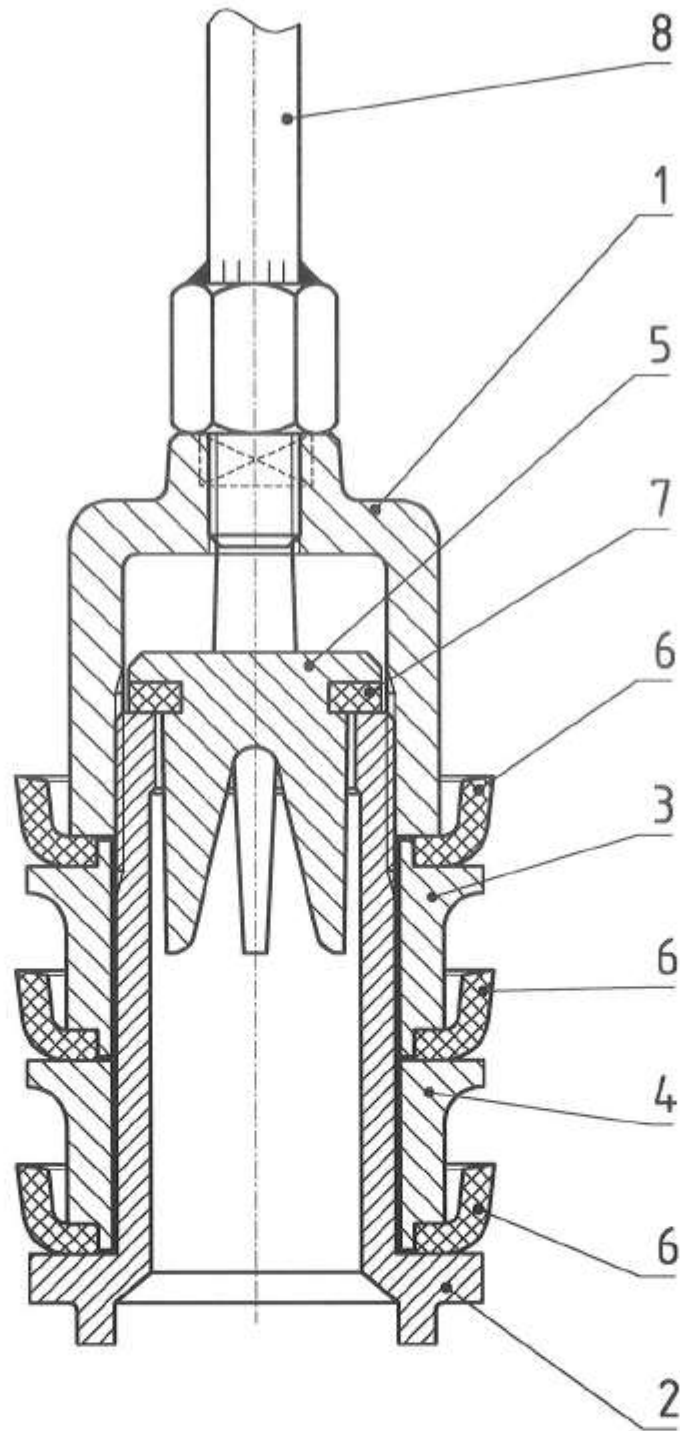


©

9	1	Plunger rod assy.	B2555	---
8	X	Pump rod assy.	B2373	(or B2383)
7	X	Riser pipe	C2365	---
6	1	Check valve assy.	A2423	---
5	1	Plunger assembly	A2541	---
4	3	Sealing ring	C2354	---
3	2	Reducer cap	C2353	---
2	1	Brass liner	C2352	---
1	1	Cylinder	C2351	---

Pos. Qty.	Description	Drawing No.	Remarks
	Sub assembly		India MK II Extra Deep Well
	Cylinder assembly		
		Scale:	1 : 2

Rural Water Supply Network		Drawn by	K. Erpl	03.10.03
RWSN		Checked by	[Signature]	05.07.07
		Released by	[Signature]	09.07.07
International Handpump Specification				A2540



©

8	1	Plunger rod assy.	B2555	---
7	1	Rubber seating	C2360	---
6	3	Cup seal	C2359	---
5	1	Upper valve	C2358	---
4	1	Spacer	C2543	---
3	1	Spacer	C2357	---
2	1	Follower	C2542	---
1	1	Plunger body	C2355	---

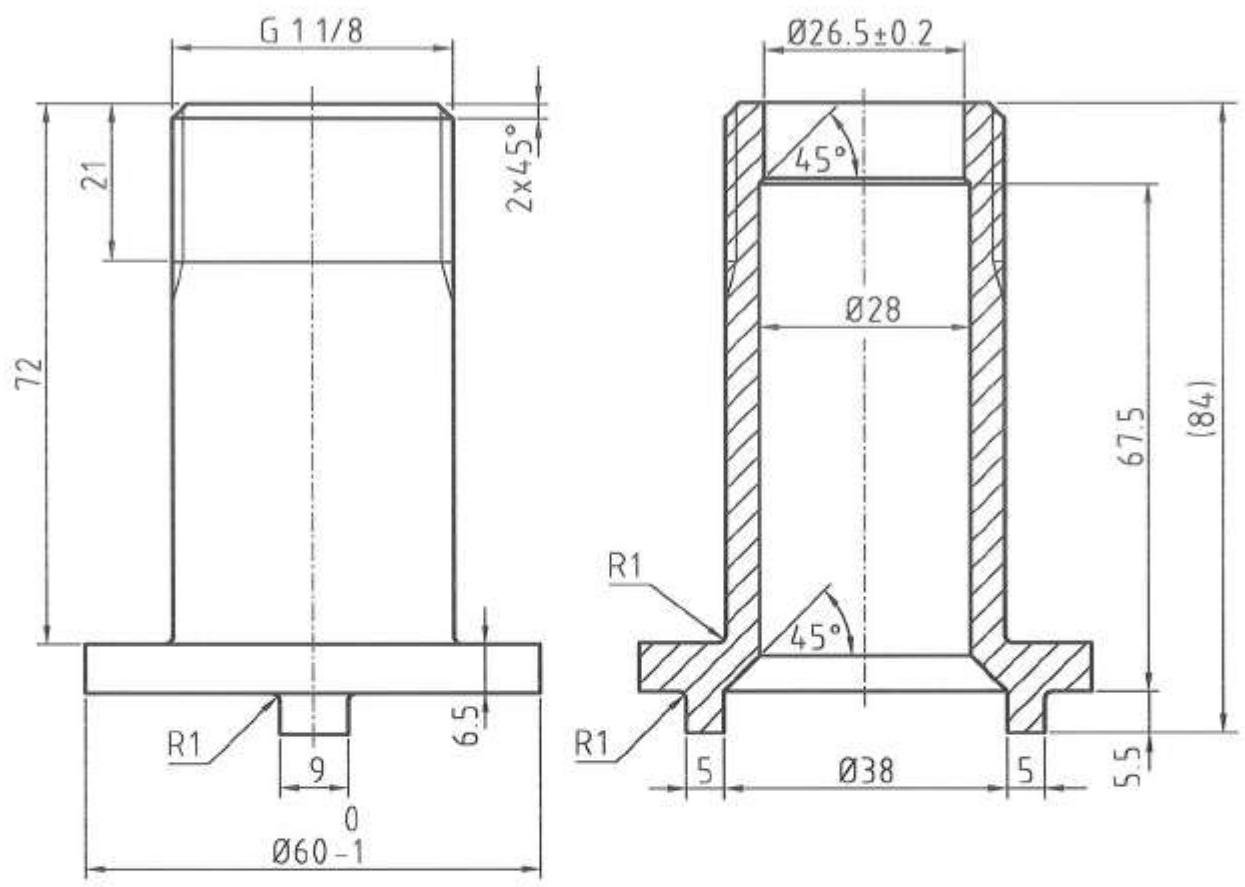
Pos.	Qty.	Description	Drawing No.	Remarks
------	------	-------------	-------------	---------

Rural Water Supply Network RWSN	Sub assembly		Scale: 1 : 1	Drawn by: K. Erpf	29.09.03
	Plunger assembly			Checked by: <i>[Signature]</i>	05.07.07
				Released by: <i>[Signature]</i>	09.07.07

International Handpump Specification



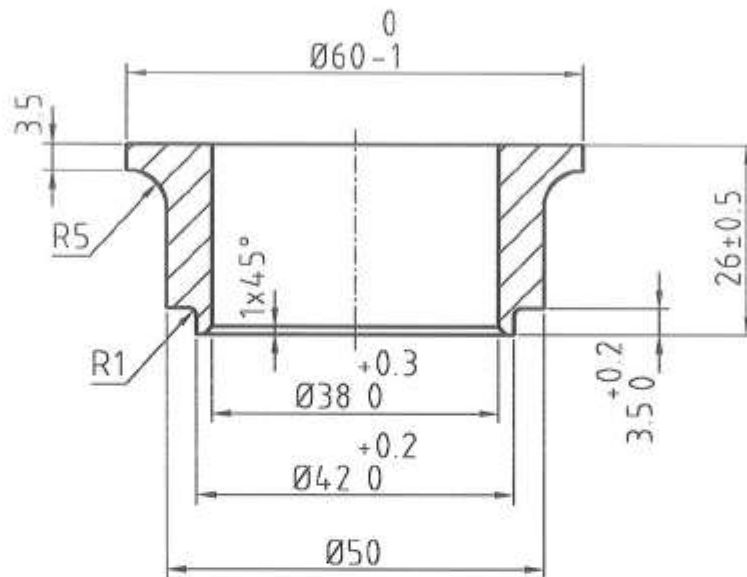
A2541



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES +/-0.5 UNLESS OTHERWISE STATED



Follower	Ø60 x 84	Copper-zinc alloy	ISO 426-2	CuZn38Pb4
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing Follower	Scale: 1:1		Drawn by: t.leder 15.03.97 Checked by: [Signature] 05.07.07 Released by: [Signature] 09.07.07
International Handpump Specification				C2542



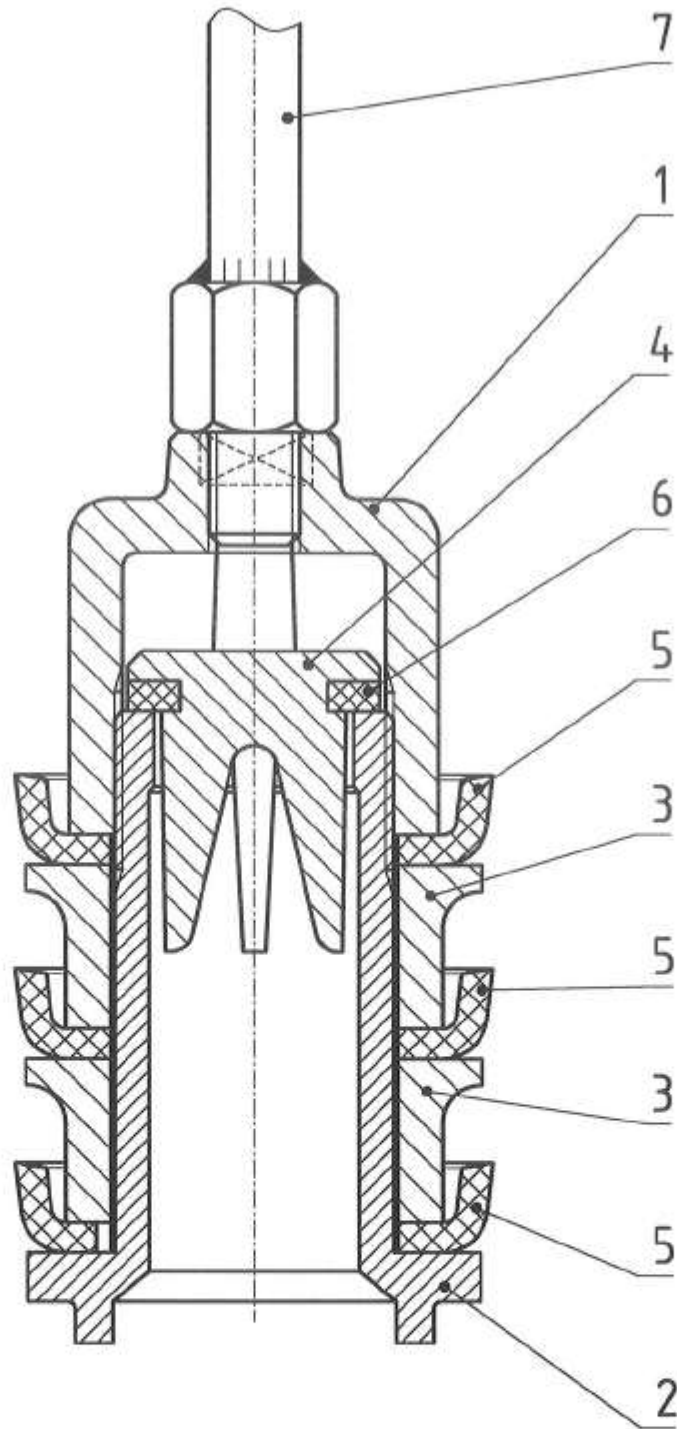
ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCES +/-0.5 UNLESS OTHERWISE STATED



Spacer	Ø60 x 26	Copper-zinc alloy	ISO 426-2	CuZn38Pb4
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing Spacer	Scale: 1 : 1	Drawn by: K.Erpf	03.10.03
			Checked by:	05.07.07
International Handpump Specification				C2543


Options for the

India Mark II Extra Deepwell Handpump



©

7	1	Plunger rod assy.	B2555	---
6	1	Rubber seating	C2360	---
5	3	Leather cup seal	C2409	---
4	1	Upper valve	C2358	---
3	2	Spacer	C2408	---
2	1	Follower	C2542	---
1	1	Plunger body	C2355	---

Pos.	Qty.	Description	Drawing No.	Remarks
Rural Water Supply Network		Sub assembly for Leather cup seal		Scale:
RWSN		Plunger assembly		1 : 1
				Drawn by: K. Erpf 29.09.03
				Checked by: [Signature] 05.07.07
				Released by: [Signature] 09.07.07
International Handpump Specification				 A2414

Parts List for the

India Mark II Extra Deepwell Handpump

Partslist for the India Mark II Extra Deepwell Handpump (Revision 2-2007)

Part No	Qty	Description	Dimension	Material	Standard	Remarks
D9166	1	Pump assembly	none	none	none	none
A2503	1	Head arrangement	none	none	none	pre-assembled
B2504	1	Head assembly	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2506	1	Back plate	4 x 98 x 628	E235	ISO 630	machined / bent
C2313	2	Side plate	4 x 345 x 386	E235	ISO 630	machined
C2314	1	Axle bush left	Ø45 x 32	E355	ISO 630	machined
C2316	1	Axle bush right	Ø45 x 25	E355	ISO 630	machined
C2317	1	Bottom end plate	4 x 40 x 90	E235	ISO 630	machined
C2318	1	Top end plate	4 x 80 x 90	E235	ISO 630	machined
C2319	1	Flange	6 x 190 x 250	E235	ISO 630	machined
B2507	1	Bracket assembly	none	none	none	welded to ISO 9692,
C2508	2	Bracket plate	4 x 35 x 131	E235	ISO 630	machined
C2509	1	Bottom plate	4 x 35 x 53.5	E235	ISO 630	machined
C2510	1	Top plate	4 x 43 x 53.5	E235	ISO 630	machined
C2512	2	Filler rod	Ø12 x 60	E185	ISO 630	machined
B2320	1	Front cover assembly	none	none	none	welded to ISO 9692,
C2321	1	Front cover plate	2 x 272 x 450	E235	ISO 630	machined / bent
A2525	1	Handle arrangement	none	none	none	pre-assembled
B2526	1	Handle assembly	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2527	1	Bearing housing	Ø70 x 50	E235	ISO 630	machined
C2328	1	Chain guide	12/12 x 228	E235	ISO 630	machined / bent
C2529	1	Handle bar	38/38 x 1170	E235	ISO 630	machined
B2346	1	Chain assembly	none	none	none	welded to ISO 9692, machined
C2330	1	Chain coupling	Ø50 x 30	E355	ISO 630	machined, electroplated to ISO 2081/82,
C2332	1	Spacer	Ø35/20.2 x 21	E235	ISO 630	machined, electroplated to ISO 2081/82,
C2333	1	Handle axle	Ø25 x 147	Stainless Steel	ISO 15510	machined, X5CrNi 18-9, bright
C2334	1	Axle washer	Ø30/13 x 4	E235	ISO 630	machined, electroplated to ISO 2081/82,
B2530	1	T-handle assembly	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2531	1	T-Bar	38/38 x 400	E235	ISO 630	machined
C2532	1	Plate	6 x 145 x 300	E235	ISO 630	machined
C2533	1	Tube	Ø38/3 x 225	ST 320	ISO 630 (ISO 559)	machined
C2534	X	Balance plate	16 x 145 x 300	E185	ISO 630	machined, hot dip galvanized to ISO 1461,
B2335	1	Third plate assembly	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2336	1	Flange	6 x 190 x 250	E235	ISO 630	machined
C2337	1	Guide bush	Ø30 x 40	E355	ISO 630	machined

Part No	Qty	Description	Dimension	Material	Standard	Remarks
B2340	1	Water tank assembly	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2341	1	Flange	6 x 190 x 230	E235	ISO 630	machined
C2342	1	Riser pipe holder	Ø55 x 50	E235	ISO 630	machined
C2343	1	Tank pipe	Ø165.1/4.85 x 154	ST 320	ISO 630 (ISO 559)	machined (6" pipe, NB150, medium)
C2344	1	Flange	6 x 190 x 230	E235	ISO 630	machined
C2269	2	Gusset	6 x 30 x 30	E235	ISO 630	machined
C2345	4	Gusset	6 x 40 x 40	E235	ISO 630	machined
B2367	1	Spout assembly	none	none	none	welded to ISO 9692,
C2368	1	Spout pipe	Ø48.4/3.25 x 280	ST 320	ISO 630 (ISO 559)	machined (1 1/2" pipe, NB40, medium)
C2369	1	Spout end	Ø48.4/3.25 x 130	ST 320	ISO 630 (ISO 559)	machined (1 1/2" pipe, NB40, medium)
B2348	1	Stand assembly NB150	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2292	1	Stand pipe	Ø165.1/4.85 x 605	ST 320	ISO 630 (ISO 559)	machined (6" pipe, NB150, medium)
C2053	1	Flange	6 x 190 x 230	E235	ISO 630	machined
C2054	3	Leg	EA 40x40x6-530	E235	ISO 657-1	machined, welded to ISO 9692,
C2052	2	Gusset	6 x 22 x 22	E235	ISO 630	machined
A2540	1	Cylinder assembly	none	none	none	none
C2351	1	Cylinder	Ø82 x 304	GG20	ISO 185	cast, machined
C2352	1	Brass liner	Ø65.3/0.9 x 310	Copper-zinc alloy	ISO 426-1	CuZn37 (CuZn20Al2 or CuZn28Sn1)
C2353	2	Reducer cap	Ø90 x 80	GG20	ISO 185	cast, machined
C2354	3	Sealing ring	Ø78/67 x 4	Nitrile Rubber	ISO 3302-1 (M2)	moulded / 70-80 Shore A
C2365	X	Riser pipe	Ø42.4/3.25 x 3000	ST 320	ISO 630 (ISO 559)	NB32, medium, hot dip galvanized GI pipe (1 1/4")
C2366	X	Socket	Ø48 x 48	ST 320	ISO 630 (ISO 559)	for hot dip galvanized GI pipe (1 1/4")
A2541	1	Plunger assembly	none	none	none	pre-assembled
C2355	1	Plunger body	Ø49 x 53.5	Copper-zinc alloy	ISO 426-2	cast, machined, CuZn38Pb4
C2542	1	Follower	Ø60 x 84	Copper-zinc alloy	ISO 426-2	machined, CuZn38Pb4
C2357	1	Spacer	Ø60 x 29	Copper-zinc alloy	ISO 426-2	machined, CuZn38Pb4
C2543	1	Spacer	Ø60 x 26	Copper-zinc alloy	ISO 426-2	machined, CuZn38Pb4
C2358	1	Upper valve	Ø33 x 40	Copper-zinc alloy	ISO 426-2	cast, machined, CuZn38Pb4
C2359	3	Cup seal	Ø63.5 x 14	Nitrile Rubber	ISO 3302-1 (M2)	moulded / 75-85 Shore A
C2360	1	Rubber seating	Ø45/19 x 4	Nitrile Rubber	ISO 3302-1 (M2)	moulded / 70-80 Shore A
A2423	1	Check valve assembly	none	none	none	pre-assembled
C2361	1	Check valve	Ø41 x 49	Copper-zinc alloy	ISO 426-2	cast, machined, CuZn38Pb4
C2362	1	Check valve seat	Ø77 x 14	Copper-zinc alloy	ISO 426-2	machined, CuZn38Pb4
C2363	1	Seat retainer	Ø47 x 10	Copper-zinc alloy	ISO 426-2	machined, CuZn38Pb4
C2364	1	Rubber seating	Ø32/10 x 4	Nitrile Rubber	ISO 3302-1 (M2)	moulded / 70-80 Shore A
A2370	1	Pumprod arrangement	none	none	none	Mild Steel (MS)
B2373	X	Pumprod assembly	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,

Part No	Qty	Description	Dimension	Material	Standard	Remarks
C2372	1	Rod	Ø12 x 2990	E235	ISO 630	machined (bright)
B2555	1	Plunger rod assembly	none	none	none	Stainless Steel (SS)
C2556	1	Rod	Ø12 x 490	Stainless Steel	ISO 15510	machined, X5CrNi 18-9, bright
OPTIONS:						
C2331	1	Bearing housing	60 x 60 x 50	E355	ISO 630	machined
B2347	1	Stand assy. NB175/150	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461,
C2378	1	Stand pipe	Ø193.7/4.85 x 345	ST 320	ISO 630 (ISO 559)	machined (7" pipe, NB175, light)
C2379	1	Stand pipe	Ø165.1/4.85 x 255	ST 320	ISO 630 (ISO 559)	machined (6" pipe, NB150, medium)
C2295	1	Reducer	Ø195 x 20	E235	ISO 630	machined
A2414	1	Plunger assembly	none	none	none	pre-assembled
C2408	2	Spacer	Ø60 x 22	Copper-zinc alloy	ISO 426-2	machined, CuZn38Pb4
C2409	3	Leather Cup seal	Ø62 x 15	Leather	none	processed, machined
A2380	1	Pumprod arrangement	none	none	none	Stainless Steel (SS)
B2383	1	Pumprod assembly	none	none	none	welded to ISO 9692,
C2382	1	Rod	Ø12 x 2990	Stainless Steel	ISO 15510	machined, X5CrNi 18-9, bright
INSTALLATION AND MAINTENANCE TOOLS						
B2420	1	Connecting tool assembly	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82
C2421	1	Rod	Ø12 x 200	E235	ISO 630	machined
C2422	1	T-bar	Ø12 x 200	E235	ISO 630	machined
A2470	1	Pipe clamp assembly	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82
C2471	2	Clamp	6 x 50 x 313	E235	ISO 630	machined, bent
A2478	1	Bearing mounting assy.	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82
C2479	1	Bearing holder	Ø50 x 38	E355	ISO 630	machined
C2480	1	Pressure plate	Ø50 x 20	E355	ISO 630	machined
C2476	1	Chain support	Ø48.4/4.05 x 60	ST 320	ISO 630 (ISO 559)	machined (1 1/2" pipe, NB40, heavy)
C2477	1	Axle punch	Ø25 x 160	E355	ISO 630	machined
A2515	1	Pipe vice assembly	none	none	none	none
B2516	1	Vice plate assembly	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82
C2517	1	Base plate	12 x 190 x 230	E235	ISO 630	machined
C2518	1	Vice plate	40 x 120 x 257	E235	ISO 630	machined
C2519	1	Fixed jaw, 1 1/4"	40 x 61.5 x 72	Tool Steel	ISO 630	machined, hardened
C2520	1	Clamping jaw, 1 1/4"	40 x 68.5 x 82	Tool Steel	ISO 630	machined, hardened
C2523	1	Side plate	6 x 35 x 70	Tool Steel	ISO 630	machined, hardened
C2524	1	Guide	24 x 40 x 65	Tool Steel	ISO 630	machined, hardened
B2557	1	Handle assembly	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82

Part No	Qty	Description	Dimension	Material	Standard	Remarks
C2558	1	Spindle	Ø30 x 140	E235	ISO 630	machined
C2559	1	Handle bar	Ø12 x 180	E235	ISO 630	machined
C2560	3	Handle knob	Ø20 x 14	E235	ISO 630	machined
A2443	1	Pumprod vice assembly	none	none	none	none
B2444	1	Vice flange assembly	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82
C2445	1	Flange	6 x 190 x 230	E235	ISO 630	machined
C2446	1	Pressure piece	40 x 50 x 50	E235	ISO 630	machined
C2447	1	Thread piece	30 x 40 x 50	E235	ISO 630	machined
C2413	2	Handle	Ø8 x 172	E235	ISO 630	machined, bent
B2448	1	Handle assembly	none	none	none	welded to ISO 9692, electroplated to ISO 2081/82
C2449	1	Spindle	Ø30 x 140	E235	ISO 630	machined
B2545	1	Lifting spanner, 1 1/4"	none	none	none	welded to ISO 9692, hot dip galvanized to ISO 1461
C2546	1	Hook plate	6 x 115 x 163	E235	ISO 630	machined
C2547	1	Gripping plate	6 x 36 x 182	E235	ISO 630	machined
C2538	1	Spanner handle	33.8/4.05 x 1200	ST 320	NB25 (1"), heavy	GI pipe, hot dip galvanized
C1152	2	Spanner (New Standard)	16 A/F	Chrome alloy	none	for hex. bolts & nuts of M10 (New ISO Standard)
C1137	2	Spanner	17 A/F	Chrome alloy	none	for hexagonal bolts and nuts of M10
C1153	2	Spanner (New Standard)	18 A/F	Chrome alloy	none	for hex. bolts & nuts of M12 (New ISO Standard)
C1005	2	Spanner	19 A/F	Chrome alloy	none	for hexagonal bolts and nuts of M12
STANDARD PARTS:						
C1012	X	Hexagonal coupler	M12 x 20	Class 8.8	ISO 4032	none
C1015	X	Hexagonal coupler	M12 x 50	Class 8.8	ISO 4032	none
C1016	23	Hexagonal nut	M12	Class 8.8	ISO 4032	none
C1017	10	Hexagonal bolt	M12 x 40	Class 8.8	ISO 4014/4017	none
C1030	1	Hexagonal bolt	M12 x 20	Class 8.8	ISO 4017	none
C1032	1	Chain	25.4 (1") Pitch	Spring Steel	ISO 4348	ISO Chain No. 16-B
C1033	1	Hexagonal bolt	M10 x 40	Class 8.8	ISO 4014/4017	none
C1034	1	Hexagonal lock nut	M10	Steel/Polyamide	ISO 7040	none
C1035	2	Ball bearing	Ø47/20 x 14	6204-2Z	ISO 15	(Toyota Koyo UK 6204 RS)
C1036	4	Hexagonal bolt	M12 x 100	Class 8.8	ISO 4014	none
C1053	X	Hexagonal coupler	M12 x 20	Stainless Steel	ISO 4032	X5CrNi 18-9
C1055	X	Hexagonal coupler	M12 x 50	Stainless Steel	ISO 4032	X5CrNi 18-9
C1150	4	Hexagonal bolt	M10 x 50	Class 8.8	ISO 4017	none
C1151	3	Dowel pin	Ø8 x 40	Tool Steel	ISO 2338	hardened

Miscellaneous for the

India Mark Handpumps

A) Details on Leather Seals

Possible Option for India Mark II Handpumps

B) Adaptor for Stainless Steel Riser Pipes

Possible Option for India Mark III Handpumps

Drawings: A2230 / C2231 / B2232 / C2233 / C2234 / C2235

C) Lifting Adaptor

Installation and Maintenance Tool

Drawings: B2474 / C2475

Details on Leather Seals

Cup seals, if made of good leather are very hard wearing and will accept wide tolerances with badly worn or pitted cylinders.

For the manufacturing of "Leather cup seals" it is essential to find an experienced company which is capable to produce this kind of technical leather products.

Here are some **General Comments** on how to manufacture vegetable-tanned cup leathers:

- The leather is from cows or oxen and is tanned in brown vegetable tan. The leather needs to be one millimeter thicker than the thickness of the finished cup seal. It has to be rough tanned leather, which means that it has not undergone any further finishing processes.
- For the tool in which you form the cup seals you need a female mould, called the **DIE**, and a punch, which is called the **PLUG**. The die is a ring with an inside diameter that is 1 mm larger than the outside diameter of the finished cup seal. The thickness of the die is 5 mm more than the height of the finished cup seal. The plug needs to have the exact diameter and radius of the inside shape of the finished product.
- Now cut a circle of leather, which has the diameter of the cup plus twice the height of the finished cup.
An example; for the cup seal C2409, you calculate 1x the outside diameter of 62 mm and 2x the height of 15 mm, which gives you a circle diameter of 92 mm.
- This round leather disc has to be soaked in warm water until it is really soft.
- Afterwards place the disc in the die so, that the smooth side of the leather is up. Finally put the plug on top of the leather and fit the whole tool under a press.
- In the press, the plug is forced right down so that the surplus leather can be cut off with a knife, level with the upper surface of the die.
- Then take the tool from the press to a bench, push the plug with the leather cup through the die and knock out the plug.
- Place the still wet leather cup in a warm room at approximately 25 to 27° Celsius until it is completely dry (more or less 48 hours).
- Put then dried leather cup into a hot paraffin wax bath at 70° Celsius until it is fully soaked.
- Place the still hot waxed leather part back into the die and the punch, so that it keeps its shape and leave it until it has cooled down.
- Then press it through the die and remove the part from the plug.
- Now it is time to machine the final shape on a lathe machine.
You place a piece of solid wood (ideal is elm wood) in the chuck of a lathe and turn exactly the inside shape of the cup seal. The diameter of the wooden shape should be such that the cup has a tight grip on it.
- First machining operation: turning the exact outside diameter and the base with a wood chisel (to be compared with a tool bit on a lathe machine).
- Second operation: mark and cut the height of the part with a pointed chisel and machine the bevel shape (10° angle).

- Third operation: now the finished cup seal needs to be polished on the outside to make it smooth and attractive.
- Last operation: cut out the centre hole with a pointed chisel.

Should you face problems with the tight grip of the cup seal on the shaped wood, you may use an adjustable hose clamp or any other suitable device for securing the cup after finishing the first operation.

For shape details see drawing C2409.

Note:

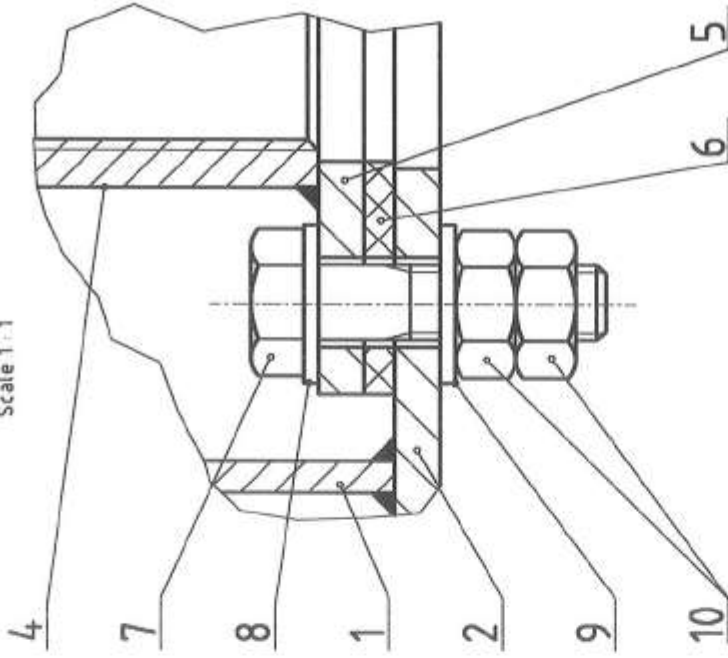
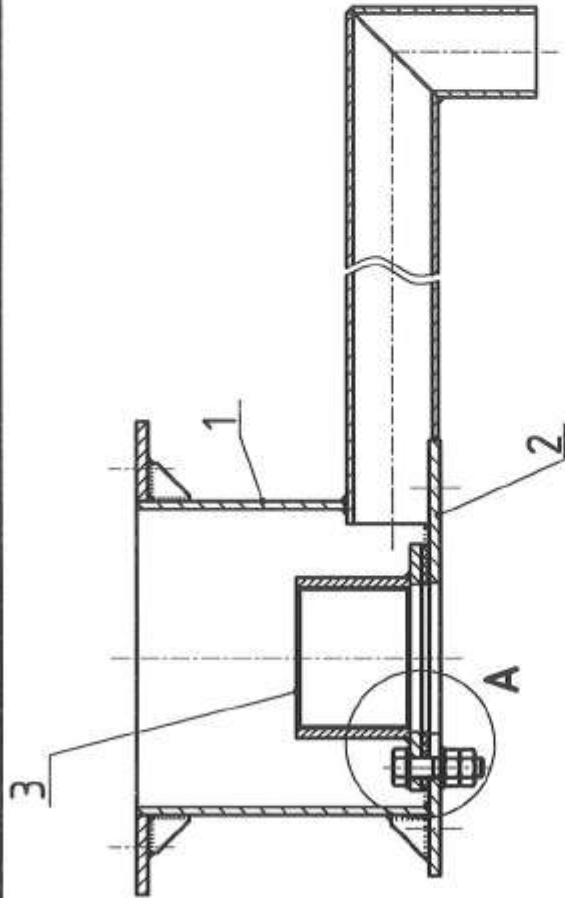
- Only vegetable **tanning agents** ought to be used for manufacturing of leather cup seals.
- The **wax** to be used for the impregnating process should have a melting point of not less than 55 – 60° Celsius. The mixture contains usually Paraffin or Stearine (candle wax).
- For softer cup seals use "Tallow" (white beef fat) instead of Paraffin wax.

If you need more detailed information please contact the Leather Specialist:

Mr. James Richardson of
Richardson Industrial Leathers
65 Babington Lane
Derby DE1 1TE
England

Phone: +44 1332 385 560
Fax: +44 1332 290 030

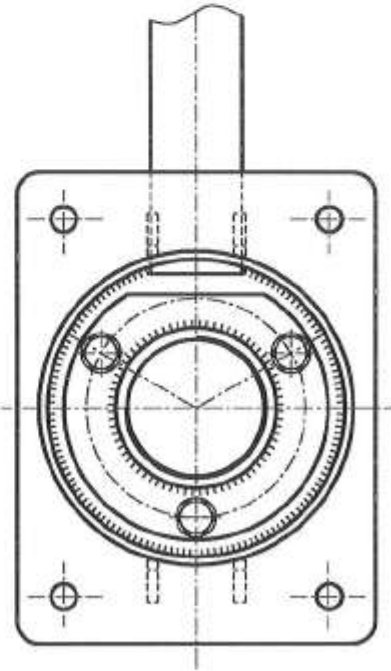
Detail A
Scale 1:1

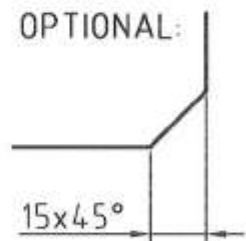
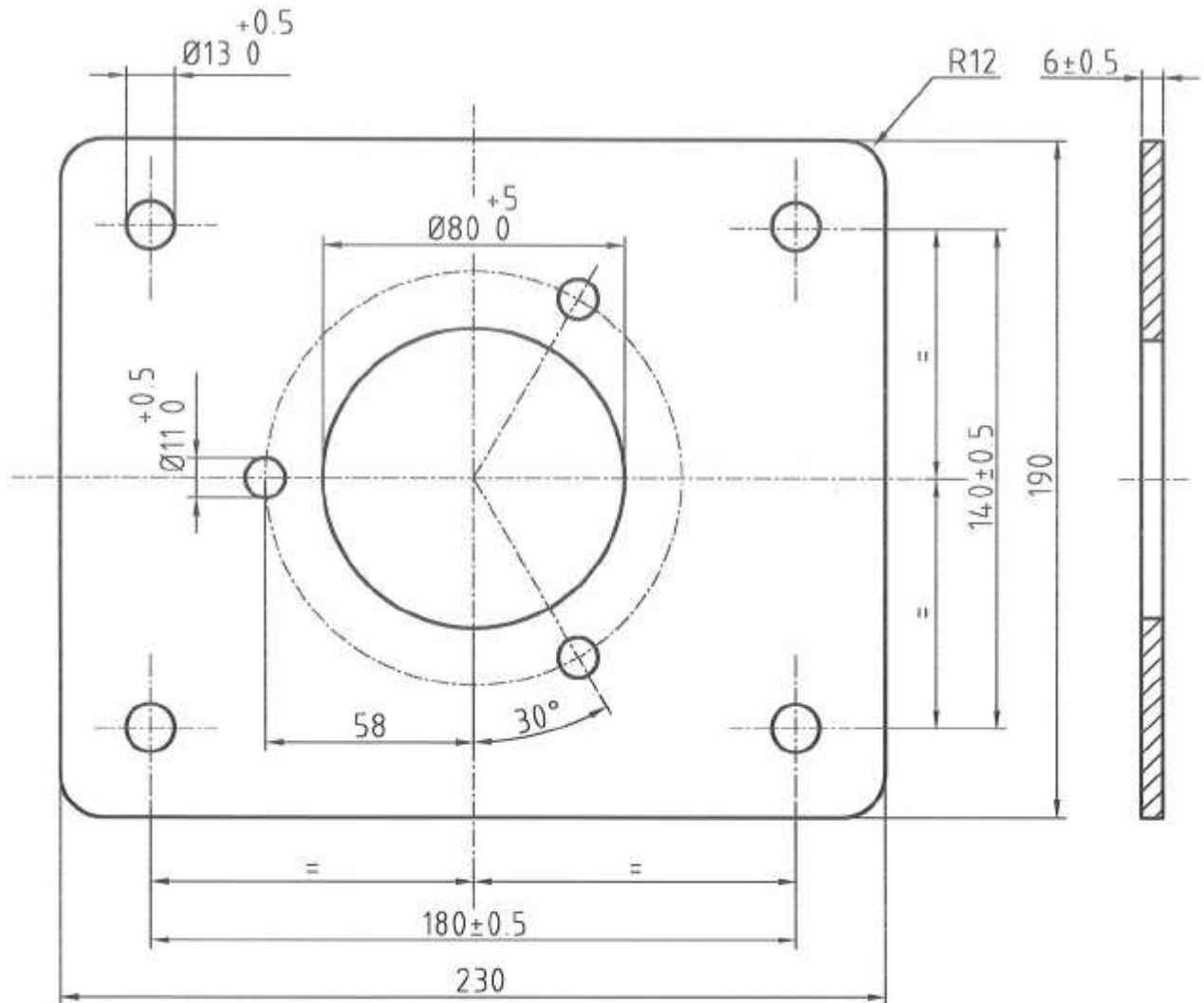


(B)

Pos.	Qty.	Description	Drawing No.	Remarks
10	6	Hex nut	C1075	M10, Stainless Steel
9	3	Washer	C1074	M10, Brass
8	3	Washer	C1064	M10, Stainless Steel
7	3	Hex bolt	C1073	M10 x 4.0, Stainless Steel
6	1	Seal	C2235	---
5	1	Plate	C2234	---
4	1	Socket 2 1/2"	C2233	---
3	1	Holder assembly	B2232	---
2	1	Flange	C2231	---
1	1	Water tank assy.	A2223	---

Rural Water Supply Networks RWSN		Sub assembly Tank arrangement		Scale: 1:4 (1:1)	Drawn by: K.Epl 17.11.98 Checked by: [Signature] 05.07.07 Released by: [Signature] 09.07.07
International Handpump Specification				A2230	

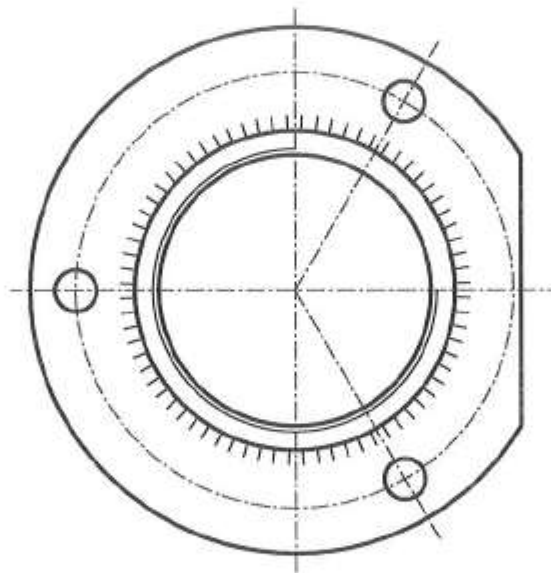
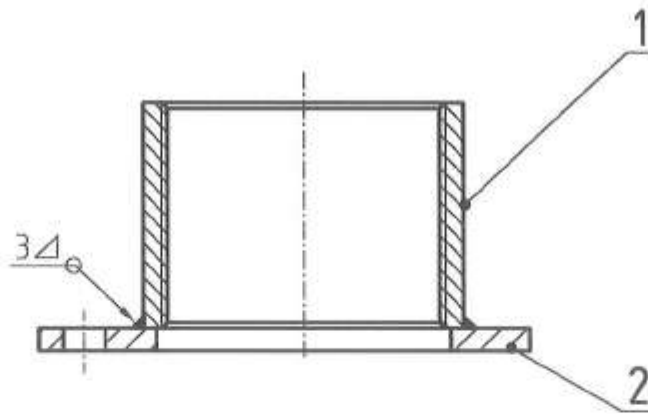




ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(B)

Flange	6 x 230 x 190	St 37	---	made of C2005
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 2	Drawn by: K.Erpf 17.11.98
	Flange			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2231



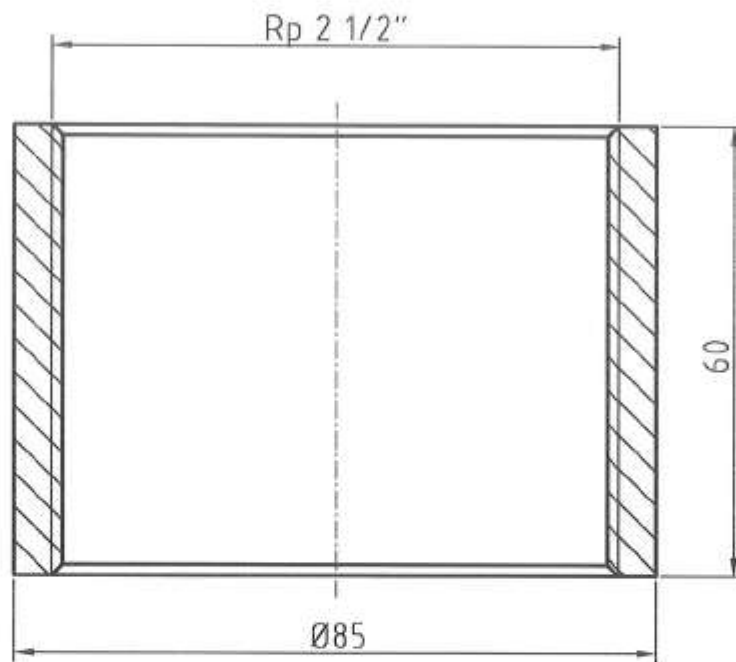
WELDED TO ISO 9692

(B)

Pos.	Qty.	Description	Drawing. No.	Remarks
2	1	Plate	C2234	---
1	1	Socket	C2233	---

Rural Water Supply Network RWSN	Sub assembly		Scale: 1 : 2	Drawn by: K.Erpf	17.11.98
	Holder assembly			Checked by: <i>[Signature]</i>	05.07.07
				Released by: <i>[Signature]</i>	09.07.07

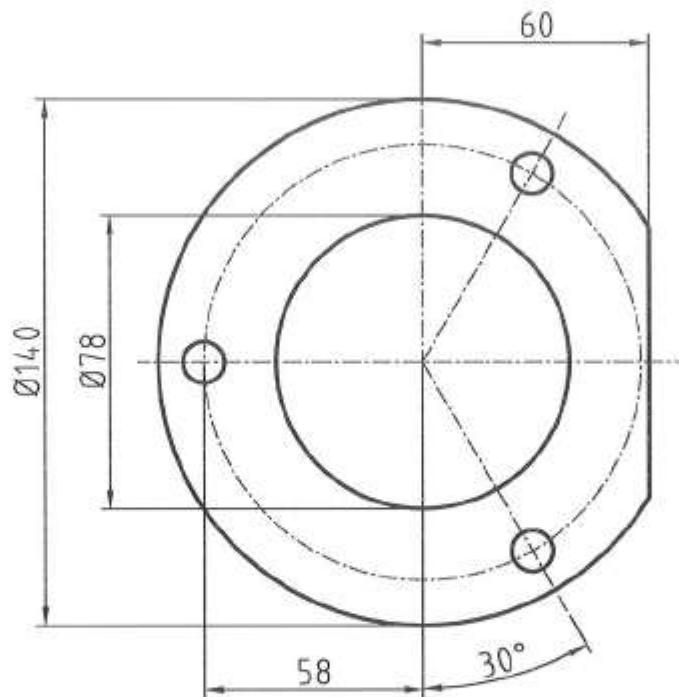
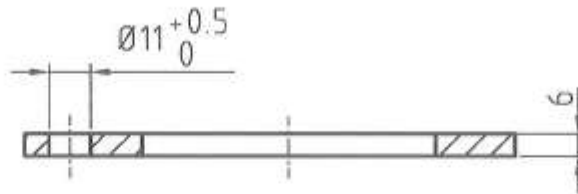
International Handpump Specification		B2232
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ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

(B)

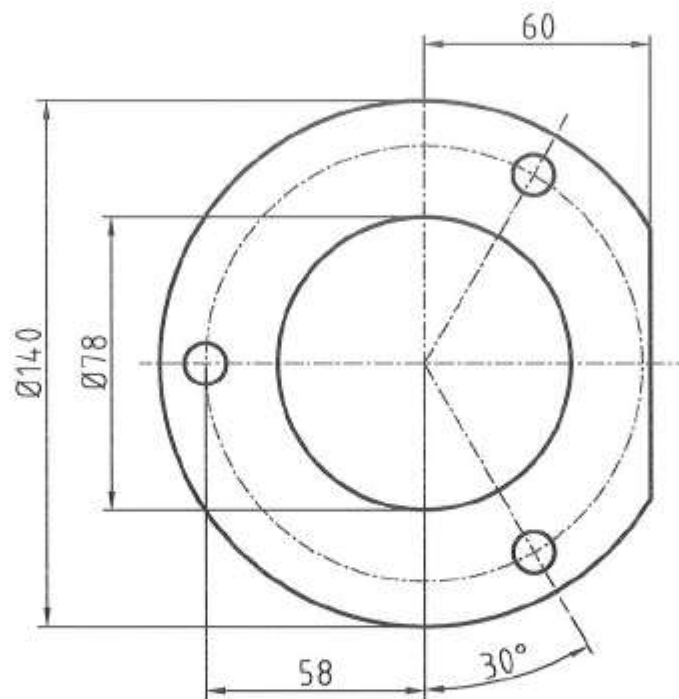
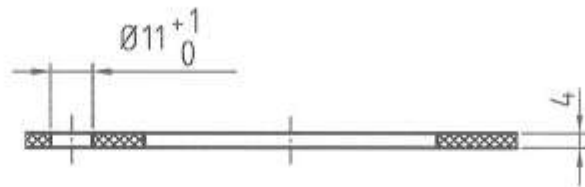
Socket 2 1/2"	Ø85 x 60	Stainless St.	---	AISI 304
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network RWSN	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 17.11.98
	Socket 2 1/2"			Checked by: <i>[Signature]</i> 05.07.07
				Released by: <i>[Signature]</i> 09.07.07
International Handpump Specification				C2233



ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED





(B)

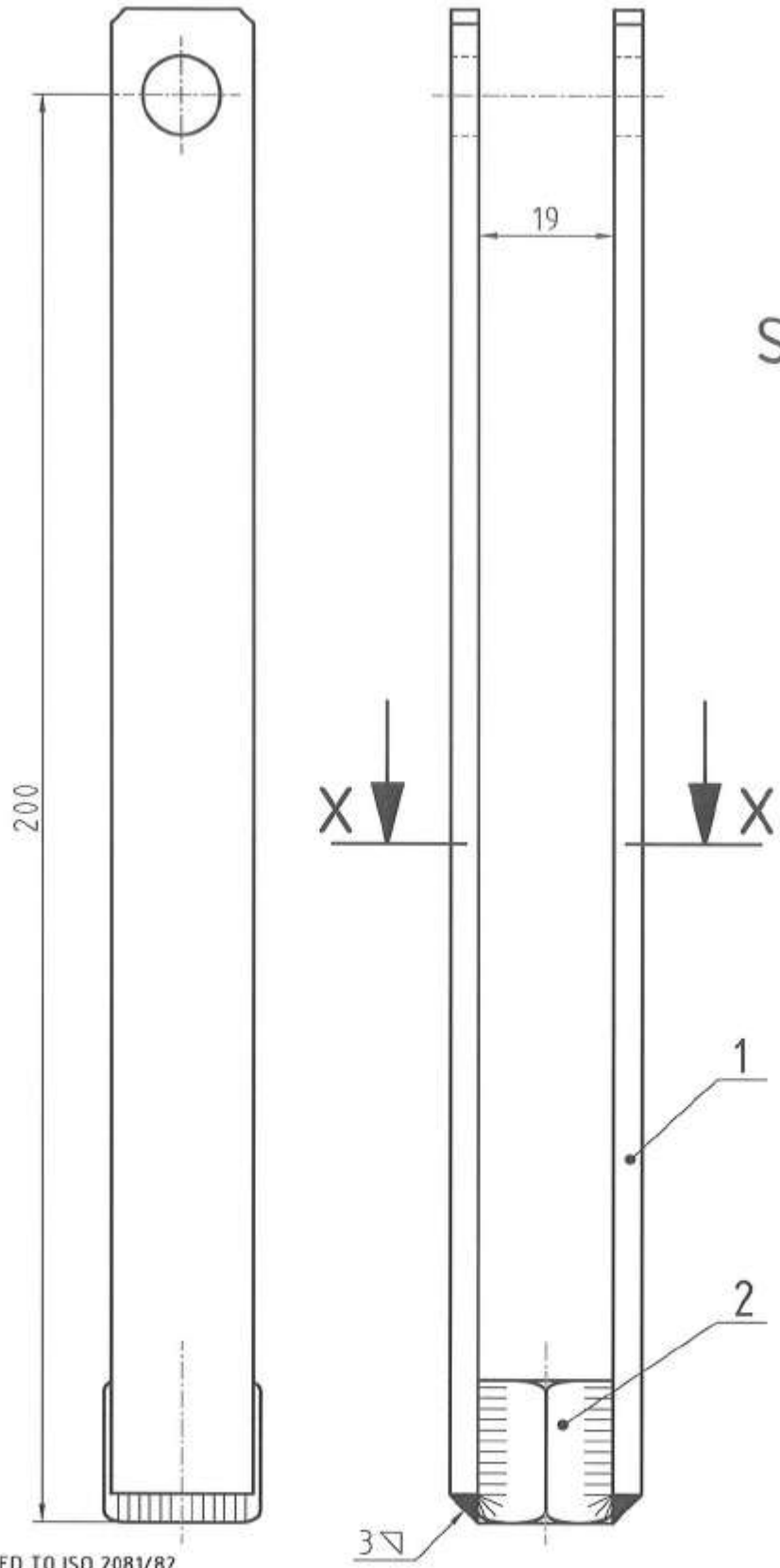
Plate	Ø140 x 6	Stainless St.	---	AISI 304
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing Plate	Scale: 1 : 2		Drawn by: K.Erpf 17.11.98
				Checked by: 05.07.07
				Released by: 09.07.07
International Handpump Specification				C2234



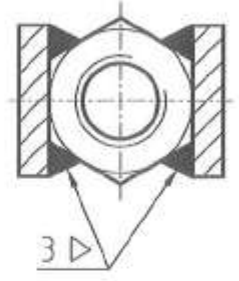
ALL SHARP CORNERS TO BE ROUNDED OFF
GENERAL TOLERANCE ± 0.2 UNLESS OTHERWISE STATED

(B)

Seal	$\varnothing 140 \times 4$	Nitrile Rubber	---	80 Shore A
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 2	Drawn by: K.Erpf 17.11.98
	Seal			Checked by:  05.07.07
				Released by:  09.07.07
International Handpump Specification				C2235



Section X-X



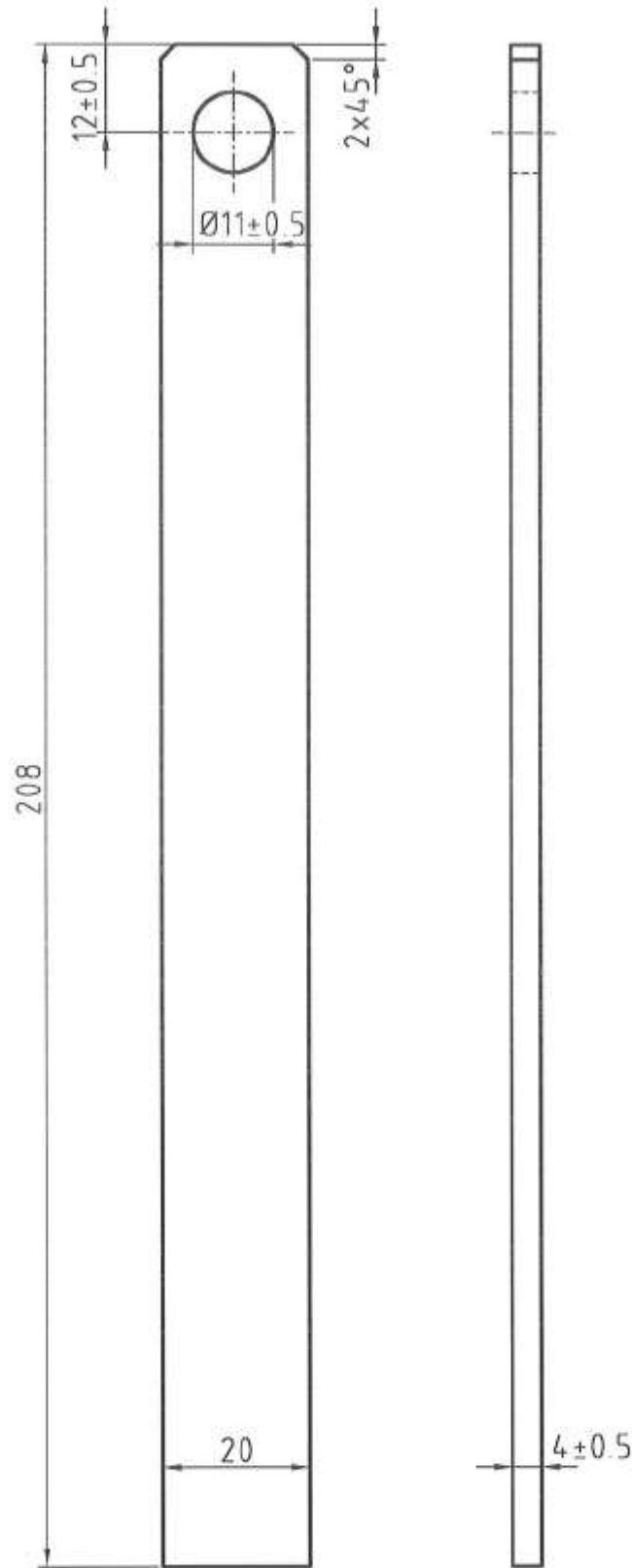
ELECTROPLATED TO ISO 2081/82
GENERAL TOLERANCE +/-1 UNLESS OTHERWISE STATED

WELDED TO ISO 9692 (A) (B) (C)

2	1	Hex. connector	C1012	M12 x 20
1	2	Plate	C2475	---
Pos.	Qty.	Description	Drawing. No.	Remarks





Rural Water Supply Network RWSN	Sub assembly		Scale: 1:1	Drawn by	K.Erpf	26.11.03
	Lifting adaptor assy.			Checked by	<i>[Signature]</i>	05.07.07
				Released by	<i>[Signature]</i>	09.07.07

International Handpump Specification		B2474
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ALL SHARP CORNERS TO BE ROUNDED OFF
 GENERAL TOLERANCE +/-2 UNLESS OTHERWISE STATED

(A) (B) (C)

Plate	4 x 20 x 208	E 235	---	---
Description	Dimensions	Material	Standards	Remarks
Rural Water Supply Network 	Detail drawing		Scale: 1 : 1	Drawn by: K.Erpf 27.11.03
	Plate			Checked by:  05.07.07
International Handpump Specification				C2475
Released by:  09.07.07				