



**SUBSURFACE
SUCKER ROD
PUMPS**

Pumps	
RHAM Pump (Rod, Stationary Heavy Wall Barrel, Top Anchor, Mechanical seating assembly)	4
RHBM Pump (Rod, Stationary Heavy Wall Barrel, Bottom Anchor, Mechanical seating assembly)	5
THM Pump (Tubing, Stationary Heavy Wall Barrel, Mechanical seating assembly)	6
THM-C Pump (Tubing, Stationary Heavy Wall Barrel, Mechanical seating assembly, Discharge Device, Knock-off Screw)	7
Parts of pumps	
Barrel, Heavy Wall	8
Plunger, Pin End, One Piece	9
Plunger, Box End, One Piece	9
Coupling, Extension	10
Nipple, Extension	10
Coupling, Tubing	11
Coupling, Barrel	11
Nipple, Seating, Mechanical Bottom	12
Cage, Closed Barrel	12
Cage, Standing Valve	13
Cage, Closed, Knock-off Screw	13
Cage, Closed, Pin Plunger	14
Cage, Closed, Pin Plunger, Doubled	
Cage, Top Plunger	14
Cage, Top Open	14
Bushing, Seat, Barrel Cage	15
Plug, Seat	16
Connector, Upper Barrel	16
Bushing, Valve Rod	17
Rod, Valve	17
Assemblies of pumps	
Seating Assembly, Mechanical Top Lock	18
Nipple, Seating, Mechanical Top Lock	19
Seating Assembly, Mechanical Bottom Lock	20
Valve, Ball and Seat	21
Valve assembly, Traveling	22
Valve assembly, Standing	23
Valve assembly, Double, Traveling	24
Valve assembly, Double, Standing	25
Valve assembly, Knock-off Screw, Standing	26
Pulling Valve, Body, Sure-Lock Type	28
Pulling Valve, Pin, Sure-Lock Type	29
Protection filter	30
Appendices	31

Pump designation

XX-XXX X X X X XX - X - X - X

Tubing size

- 15** – 1,9 in (48,3 mm)
- 20** – 2³/₈ in (60,3 mm)
- 25** – 2⁷/₈ in (73,0 mm)
- 30** – 3¹/₂ in (88,9 mm)
- 40** – 4¹/₂ in (114,3 mm)

Pump bore (basic)

- 106** – 1,063 in (27,0 mm)
- 125** – 1¹/₄ in (31,8 mm)
- 150** – 1¹/₂ in (38,1 mm)
- 175** – 1³/₄ in (44,5 mm)
- 225** – 2¹/₄ in (57,2 mm)
- 275** – 2³/₄ in (69,9 mm)
- 375** – 3³/₄ in (95,3 mm)

Type pump: R – rod, T – tubing

Type barrel: H – heavy wall for metal plunger pumps

Location of seating assembly: A – top, B – bottom

Type seating assembly: M – mechanical

Barrel length in feet

Plunger length in feet

Length of upper extension in feet

Length of lower extension in feet

Mechanical Lock, Nipple designation

XXX-XX

Type of Mechanical Lock

- N14** – API
- OM** – OST

Tubing size

- 20** – 2 ³/₈" (60,3 mm)
- 25** – 2 ⁷/₈" (73,0 mm)
- 30** – 3 ¹/₂" (88,9 mm)

Mechanical Lock, Seating Assembly designation

XXX-XX-XXX

Type of Seating Assembly

S21 – API, Top**S22** – API, Bottom**S23** – OST, Top**S24** – OST, Bottom

Tubing size

20 – 2 3/8" (60,3 mm)**25** – 2 7/8" (73,0 mm)**30** – 3 1/2" (88,9 mm)**40** – 4 1/2" (114,3 mm)

Additional Index (optional)

25 – enlarged mechanical lock for connection pumps with bore **106** – 1,0625" (27,0 mm) and **125** – 1 1/4" (31,8 mm) with nipple with tubing size **25** – 2 7/8" (73,0 mm)(for **S21** and **S23** only)**125** – mechanical lock for connection tubing pump with pump bore **125** – 1 1/4" (31,8 mm) with nipple with tubing size **20** – 2 3/8" (60,3 mm)

While preparing an order for the pumps, the customer shall specify the full designation of the pump including:

- tubing size
- pump bore
- types of pump
- barrel thickness
- location and type of seating assembly
- barrel, plunger and extensions length

In addition, must specify additional requirements that determine the performance of the pump:

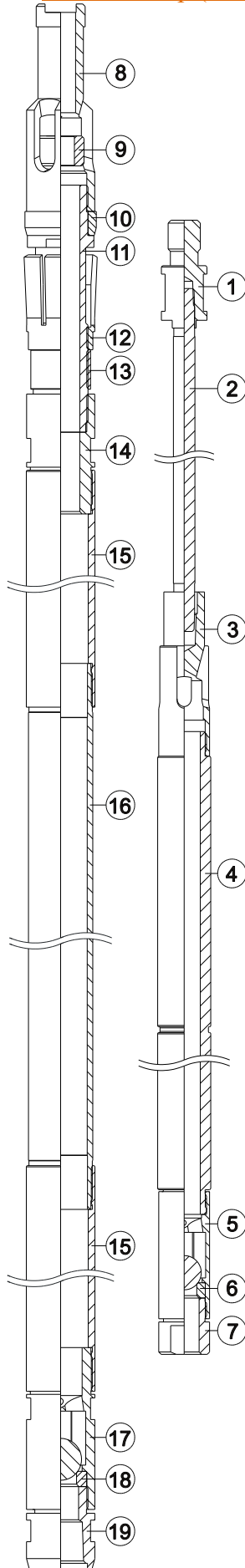
- a way of strengthening the internal surface of the cylinder (according to table F.1 & F.2 API Spec. 11AX 13th edition)
- a method of hardening the surface of the plunger (according to table F.8 & F.9 API Spec. 11AX 13th edition)
- plunger clearance (Fit-1..5)
- material valve pairs «ball-seat» (according to table F.4 API Spec. 11AX 13th edition)
- design of the valve
- the Seating Lock Type

Example: Rod pump with top anchor and mechanical seating assembly, tubing size 2 3/8 in., stationary heavy wall barrel, pump basic bore 1 1/4 in., barrel length 12 feet, metal sprayed 595 HV plunger 4 feet length, upper extension 2 feet, lower extension 2 feet, chrome covered barrel, double stellite valves, clearance 0,05-0,113 mm:

20-125 RHAM 12-4-2-2 (A1, C1, Fit-2, A3, double)

In the catalog are presented most common dimensions, other can be decided by customer on order.

RHAM Pump (Rod, Stationary Heavy Wall Barrel, Top Anchor, Mechanical seating assembly)

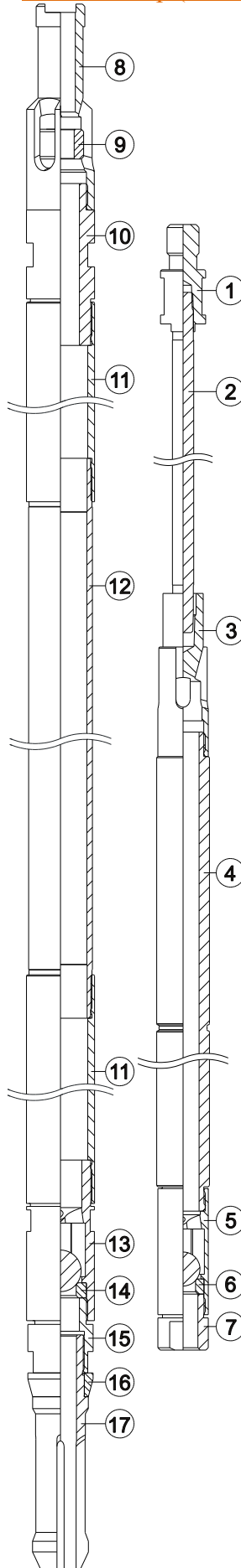


Item	API Item	Description (API Designation)	Qty	Part Number			
				Tubing size and Pump bore			
				60,3 x 27,0 mm 2 3/8" x 1,063"	60,3 x 31,8 mm 2 3/8" x 1 1/4"	73,0 x 38,1 mm 2 7/8" x 1 1/2"	73,0 x 44,5 mm 2 7/8" x 1 3/4"
			20-106 RHAM	20-125 RHAM	25-150 RHAM	25-175 RHAM	
1	B21 MOD	Bushing, Valve Rod	1	B21-20		B21-25	
2	R11 MOD	Rod, Valve	1	R11-20-xxxx		R11-25-xxxx	
3	C12	Cage, Top Plunger	1	C12-106	C12-125	C12-150	C12-175
4	P21, P22	Plunger, Pin End	1	P21-106-xx P22-106-xx	P21-125-xx P22-125-xx	P21-150-xx P22-150-xx	P21-175-xx P22-175-xx
5	C13MOD	Cage, Closed Plunger	1	C13-106	C13-125	C13-150	C13-175
6	V11	Valve, Ball and Seat, Traveling	1	VII -106	VII -125	VII -150	VII -175
7	P12	Plug, Seat	1	P12-106	P12-125	P12-150	P12-175
8	G11 MOD	Guide, Valve Rod	1	G11-20		G11-25	
9	-	Bushing, Sand	1	G111-20		G111-25	
10	S21MOD	Seal Ring, Mechanical Top Lock	1	S211-20		S211-25	
11	S21MOD	Mandrel, Mechanical Top Lock	1	S212-20		S212-25	
12	S21MOD	Collet, Mechanical Top Lock	1	S213-20		S213-25	
13	S21MOD	Nut, Mechanical Top Lock	1	S214-20		S214-25	
14	S21MOD	Bushing, Mechanical Top Lock Seating	1	S215-20		S215-25	
15	C31	Coupling, Extension	2	C31-106-xx	C31-125-xx	C31-150-xx	C31-175-xx
16	B12	Barrel, Heavy Wall	1	B12-106-xx	B12-125-xx	B12-150-xx	B12-175-xx
17	C14	Cage, Closed Barrel	1	C14-20		C14-25	
18	V11	Valve, Ball and Seat, Standing	1	V11-175		V11-225	
19	B22	Bushing, Barrel Cage	1	B22-20		B22-25	

Note:

On order, the pumps are available:

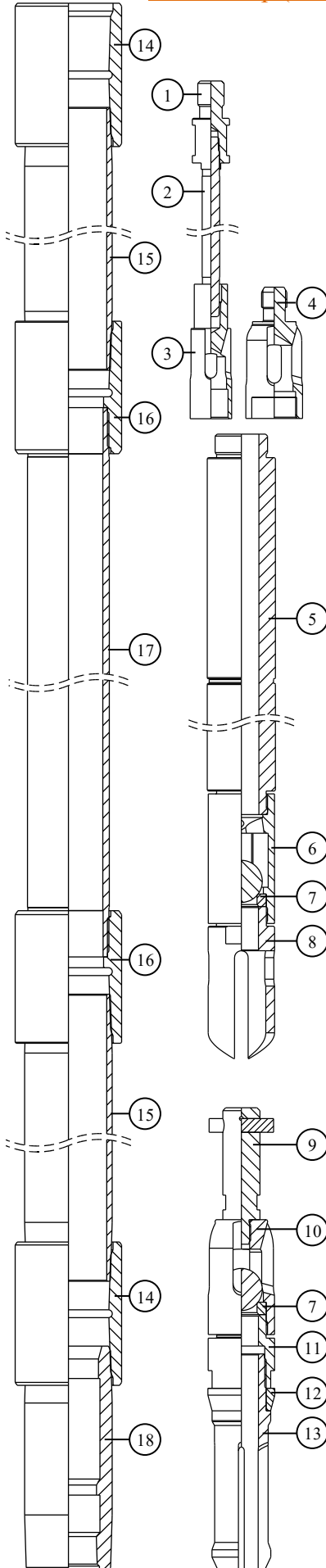
- with double valves
- with increased fastening hold-down to API for installation in well tubing string with diameter of 73 mm. (for Tubing Size 20 only)

RHBM Pump (Rod, Stationary Heavy Wall Barrel, Bottom Anchor, Mechanical seating assembly)


Item	API Item	Description (API Designation)	Qty	Part Number	
				Tubing size and Pump bore	
				60,3 x 31,8 mm 2 3/8" x 1 1/4"	73,0 x 44,5 mm 2 7/8" x 1 3/4"
				20-125 RHBM	25-175 RHBM
1	B21 MOD	Bushing, Valve Rod	1	B21-20	B21-25
2	R11 MOD	Rod, Valve	1	R11-20-xxxx	R11-25-xxxx
3	C12	Cage, Top Plunger	1	C12-125	C12-175
4	P21, P22	Plunger, Pin End	1	P21-125-xx P22-125-xx	P21-175-xx P22-175-xx
5	C13MOD	Cage, Closed Plunger	1	C13-125	C13-175
6	V11	Valve, Ball and Seat, Traveling	1	VII -125	VII -175
7	P12	Plug, Seat	1	P12-125	P12-175
8	G11 MOD	Guide, Valve Rod	1	G11-20	G11-25
9	-	Bushing, Sand	1	G111-20	G111-25
10	C21	Connector, Upper Barrel	1	C21-20	C21-25
11	C31	Coupling, Extension	2	C31-125-xx	C31-175-xx
12	B12	Barrel, Heavy Wall	1	B12-125-xx	B12-175-xx
13	C14	Cage, Closed Barrel	1	C14-20	C14-25
14	V11	Valve, Ball and Seat, Standing	1	V11-175	V11-225
15	S22MOD	Bushing, Mechanical Bottom Lock	1	S221-20	S221-25
16	S22MOD	Seal Ring, Mechanical Bottom Lock	1	S222-20	S222-25
17	S22MOD	Mandrel, Mechanical Bottom Lock	1	S223-20	S223-25

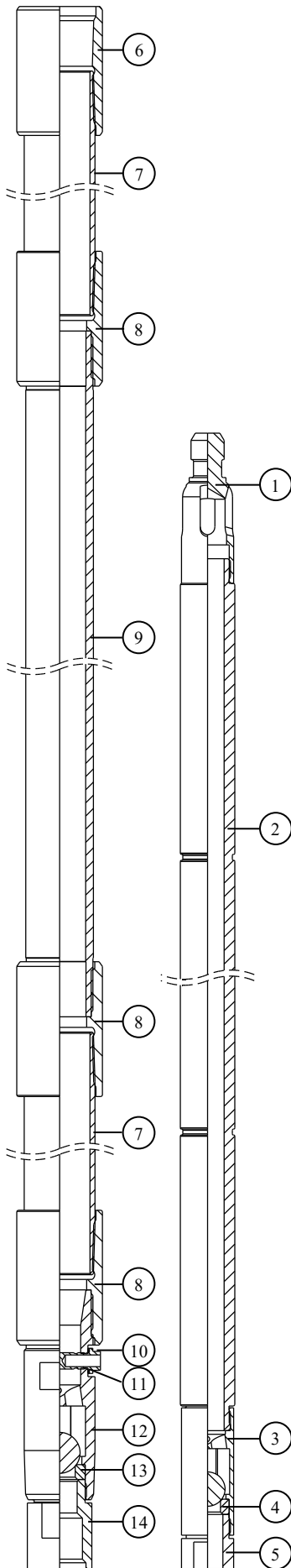
Note:

On order, the pumps are available with double valves

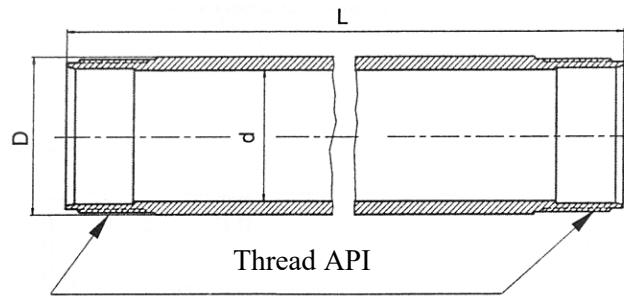
THM Pump (Tubing, Stationary Heavy Wall Barrel, Mechanical seating assembly)


Item	API Item	Description (API Designation)	Qty	Part Number					
				Tubing size and Pump bore					
				60,3x31,8 mm 2 3/8" x 1 1/4"	60,3x44,5 mm 2 3/8" x 1 3/4"	73,0x57,2 mm 2 7/8" x 2 1/4"	88,9x69,9 mm 3 1/2" x 2 3/4"	114,3x95,3mm 4 1/2" x 3 3/4"	
			20-125 THM	20-175 THM	25-225 THM	30-275 THM	40-375 THM		
1	B21 MOD	Bushing, Valve Rod	1	B21-20			-		
2	R11 MOD	Rod, Valve	1	R11-20-xxxx			-		
3	C12	Cage, Top Plunger	1	C12-125			-		
4	C11	Cage, Top Open	1	-	C11-20	C11-25	C11-30	C11-40	
5	P21, P22	Plunger, Pin End	1	P21-125-xx P22-125-xx	P21-175-xx P22-175-xx	P21-225-xx P22-225-xx	P21-275-xx P22-275-xx	P21-375-xx P22-375-xx	
6	C13MOD	Cage, Closed Plunger	1	C13-125	C13-175	C13-225	C13-275	C13-375	
7	V11	Valve, Ball and Seat, Traveling, Standing	2	V11-125	V11-175	V11-225	V11-250	V11-375	
8	P31MOD	Body, Puller, Standing Valve	1	P311-125	P311-175	P311-225	P311-275	P311-375	
9	P31MOD	Pin, Puller, Standing Valve	1	P312-125	P312-175	P312-225	P312-275	P312-375	
10	C16 MOD	Cage, Standing Valve	1	C16-125	C16-175	C16-225	C16-275	C16-375	
11	S22MOD	Bushing, Mechanical Bottom Lock	1	S221-20-125	S221-20	S221-25	S221-30	S221-40	
12	S22MOD	Seal Ring, Mechanical Bottom Lock	1	S222-20-125	S222-20	S222-25	S222-30	S222-40	
13	S22MOD	Mandrel, Mechanical Bottom Lock	1	S223-20-125	S223-20	S223-25	S223-30	S223-40	
14	C34MOD	Coupling, Tubing	2	C34-20-125	C34-20	C34-25	C34-30	C34-40	
15	N22 MOD	Nipple, Extension	2	N22-20-125-xx	N22-20-xx	N22-25-xx	N22-30-xx	N22-40-xx	
16	C35MOD	Coupling, Barrel	2	C35-20-125	C35-20	C35-25	C35-30	C35-40	
17	B12, B13	Barrel, Heavy Wall	1	B12-125-xx	B13-175-xx	B13-225-xx	B13-275-xx	B13-375-xx	
18	N12 MOD	Nipple, Seating, Mechanical Bottom	1	N12-20-125	N12-20	N12-25	N12-30	N12-40	

THM-C Pump (Tubing, Stationary Heavy Wall Barrel, Mechanical seating assembly, Discharge Device, Knock-off Screw)



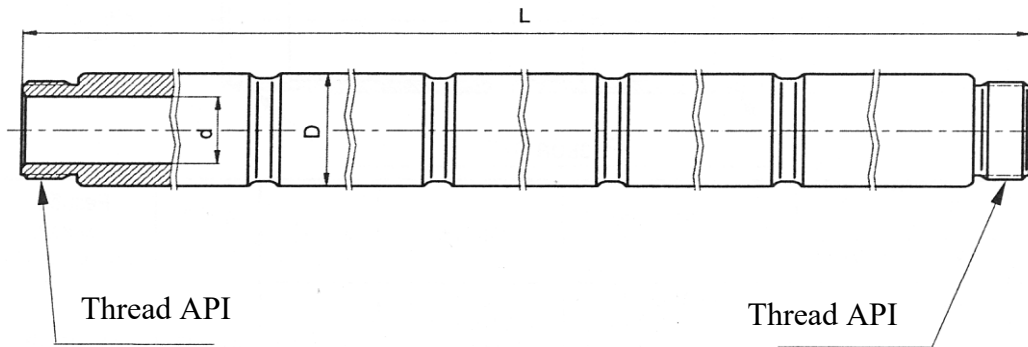
Item	API Item	Description (API Designation)	Qty	Part Number	
				Tubing size and Pump bore	
				73,0 x 57,2 mm 2 7/8" x 2 1/4"	88,9 x 69,9 mm 3 1/2" x 2 3/4"
		25-225 THM-C		30-275 THM-C	
1	C11	Cage, Top Open	1	C11-25	C11-30
2	P21	Plunger, Pin End	1	P21-225-xx	P21-275-xx
3	C13MOD	Cage, Closed Plunger	1	C13-225	C13-275
4	V11	Valve, Ball and Seat, Traveling	1	V11-225	V11-250
5	P12	Plug, Seat	1	P12-225	P12-250
6	C34MOD	Coupling, Tubing	1	C34-25	C34-30
7	N22 MOD	Nipple, Extension	2	N22-25-xx	N22-30-xx
8	C35MOD	Coupling, Barrel	3	C35-25	C35-30
9	B12, B13	Barrel, Heavy Wall	1	B13-225-xx	B13-275-xx
10	-	Knock-off Screw	1	C181-25	C181-30
11	-	Gasket	1	C182-25	C182-30
12	-	Cage, Closed, Knock-off Screw	1	C18-25-250	C18-30-250
13	V11	Valve, Ball and Seat, Standing	1	V11-250	V11-250
14	B22	Bushing, Barrel Cage	1	B22-30	B22-30

Barrel, Heavy Wall, Rod and Tubing Pump


Pump Bore	L		API Designation	Part Number	D, mm min-max	d ^{+0,05} , mm	Thread	Pump type
	Feet	mm						
106 1,063" 27,0 mm	12	3658	B12-106-12	B12-106-12	33,27-36,52	26,988	33,338-16	Rod Pumps
	14	4267	B12-106-14	B12-106-14				
125 1¼" 31,8 mm	12	3658	B12-125-12	B12-125-12	40,64-44,7	31,75	39,954-16	
	14	4267	B12-125-14	B12-125-14				
150 1½" 38,1 mm	12	3658	B12-150-12	B12-150-12	46,99-57,40	38,10	47,625-16	
	14	4267	B12-150-14	B12-150-14				
175 1¾" 44,5 mm	12	3658	B12-175-12	B12-175-12	53,34-57,40	44,45	53,010-16	
	14	4267	B12-175-14	B12-175-14				
175 1¾" 44,5 mm	10	3048	B13-175-10	B13-175-10	56,64-57,40	44,45	56,845-11 ½	Tubing Pumps
	11	3353	B13-175-11	B13-175-11				
	12	3658	B13-175-12	B13-175-12				
	14	4267	B13-175-14	B13-175-14				
225 2¼" 57,2 mm	10	3048	B13-225-10	B13-225-10	69,34-70,10	57,15	69,545-11 ½	
	11	3353	B13-225-11	B13-225-11				
	12	3658	B13-225-12	B13-225-12				
	14	4267	B13-225-14	B13-225-14				
275 2¾" 69,9 mm	10	3048	B13-275-10	B13-275-10	82,04-82,80	69,85	82,245-11 ½	
	11	3353	B13-275-11	B13-275-11				
	12	3658	B13-275-12	B13-275-12				
	14	4267	B13-275-14	B13-275-14				
375 3¾" 95,3 mm	11	3353	B13-375-11	B13-375-11	107,44-108,20	95,25	M80x2	

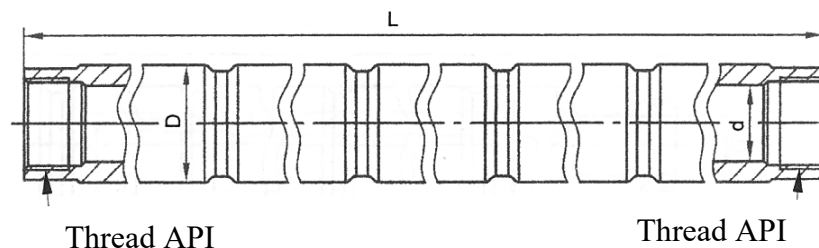
* Most common length are presented, can be decided by customer on order.

Additionally specify when ordering to indicate Barrel material and ID condition (available plated barrels materials: A1, A2, A3, A4, A5, A6, B1, B2, B3, B4, B5, B6, C1, C2, C3, C5, D1, D2, D3, D5; available case hardened materials: G1, G3, H1, J1, K1, L2).

Plunger, Pin End, One Piece


Pump Bore	L*		API Designation	Part Number	D-0,013, mm	d, mm	Thread
	feet	mm					
106 (1,063") 27,0 mm	4	1333	P21-106-4 MOD	P21-106-4	26,988-Fit	14,0	22,225-14
	5	1638	P21-106-5 MOD	P21-106-5			
	6	1943	P22-106-6 MOD	P22-106-6			
125 (1¼") 31,8 mm	4	1333	P21-125-4 MOD	P21-125-4	31,75-Fit	17,0	25,400-14
	5	1638	P21-125-5 MOD	P21-125-5			
	6	1943	P22-125-6 MOD	P22-125-6			
150 (1½") 38,1 mm	4	1333	P21-150-4 MOD	P21-150-4	38,1-Fit	21,0	31,750-14
	5	1638	P21-150-5 MOD	P21-150-5			
	6	1943	P22-150-6 MOD	P22-150-6			
175 (1¾") 44,5 mm	4	1337	P21-175-4 MOD	P21-175-4	44,45-Fit	27,0	37,348-14
	5	1641	P21-175-5 MOD	P21-175-5			
	6	1946	P22-175-6 MOD	P22-175-6			
225 (2¼") 57,2 mm	4	1340	P21-225-4 MOD	P21-225-4	57,15-Fit	32,0	45,781-14
	5	1645	P21-225-5 MOD	P21-225-5			
275 (2¾") 69,9 mm	4	1343	P21-275-4 MOD	P21-275-4	69,85-Fit	36,0	53,581-11 ½
	5	1648	P21-275-5 MOD	P21-275-5			
375 (3¾") 95,3 mm	4	1343	P21-375-4 MOD	P21-375-4	95,25-Fit	68,0	80,556-11 ½

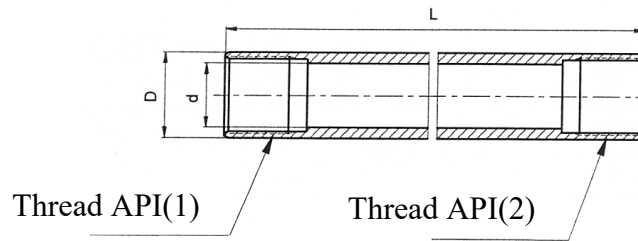
* Most common length are presented, can be decided by customer on order. Clearance (Fit) shall be specified while ordering. Available spray metal coated plungers: B1, B2, B3, C1, C2, C3, D1, D2, D3, E1, E2, E3, F1, F2, F3. Available plated plungers: A1, A2, A3, B1, B2, B3.

Plunger, Box End, One Piece


Pump Bore	L		API Designation	Part Number	D-0,013, mm	d, mm	Thread	Pump Type
	Feet	mm						
375 3¾" 95,3 mm	4	1295	P23-375-4MOD	HH1AB-95.030.01	95,25	78,0	M82x2	Tubing Pump

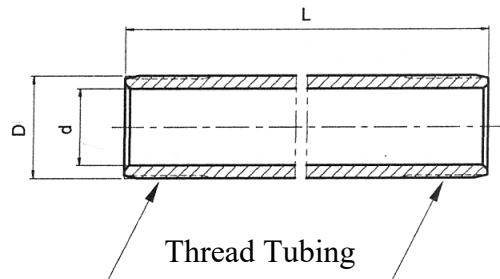
Plungers construction – hard-sprayed, hardness not less than 55 HRC.

Coupling, Extension



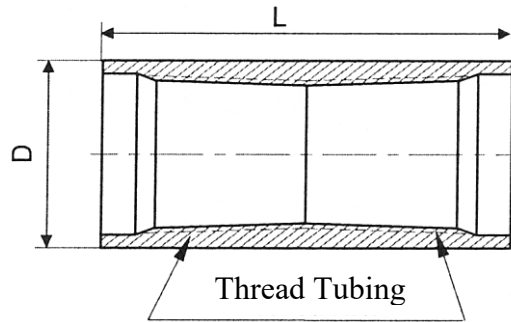
Pump Bore	L		API Designation	Part Number	D, mm	d, mm	Thread	
	Feet	mm					(1)	(2)
106	1,5	490	C31-106-18	C31-106-1,5	44,7	27,8	33,338-16	39,954-16
1,063"	2	640	C31-106-24	C31-106-2				
27,0 mm	3	945	C31-106-36	C31-106-3				
125	1,5	495	C31-125-18	C31-125-1,5	44,7	32,5	39,954-16	39,954-16
1¼"	2	645	C31-125-24	C31-125-2				
31,8 mm	3	950	C31-125-36	C31-125-3				
150	1,5	495	C31-150-18	C31-150-1,5	57,4	39,7	47,625-16	53,010-16
1½"	2	645	C31-150-24	C31-150-2				
38,1 mm	3	950	C31-150-36	C31-150-3				
175	1,5	495	C31-175-18	C31-175-1,5	57,4	45,2	53,010-16	53,010-16
1¾"	2	645	C31-175-24	C31-175-2				
44,5 mm	3	950	C31-175-36	C31-175-3				

Nipple, Extension



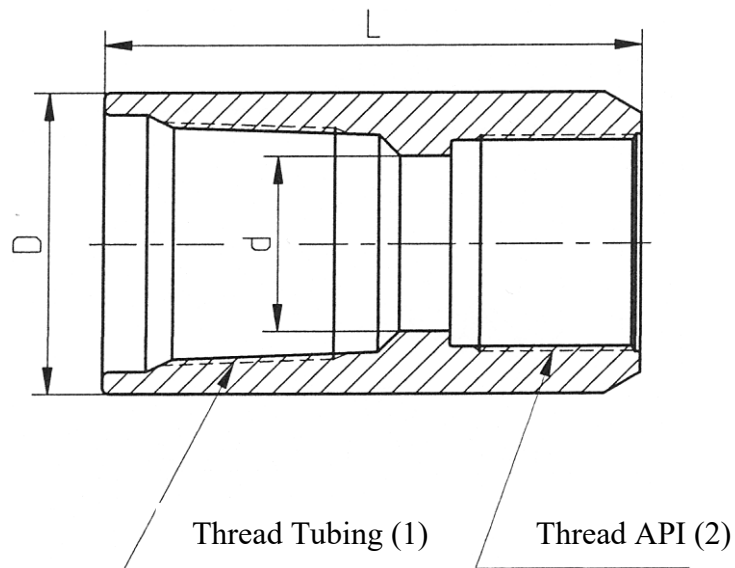
Pump Bore	L		API Designation	Part Number	D, mm	d, mm	Thread (Tubing)
	Feet	mm					
125	1,5	457	-	N22-20-125-1,5	46,0	36,5	1,66-10 (42 upset)
1¼"	2	610		N22-20-125-2			
31,8 mm	3	914		N22-20-125-3			
175	1,5	457	N22-20-18 MOD	N22-20-1,5	60,3	51,8	2 ⅜"-10 (60)
1¾"	2	610	N22-20-24 MOD	N22-20-2			
44,5 mm	3	914	N22-20-36 MOD	N22-20-3			
225	1,5	457	N22-25-18 MOD	N22-25-1,5	73,0	62,0	2 ⅞"-10 (73)
2¼"	2	610	N22-25-24 MOD	N22-25-2			
57,2 mm	3	914	N22-25-36 MOD	N22-25-3			
275	1,5	457	N22-30-18 MOD	N22-30-1,5	88,9	77,9	3 ½"-10 (89)
2¾"	2	610	N22-30-24 MOD	N22-30-2			
69,9 mm	3	914	N22-30-36 MOD	N22-30-3			
375	1,5	460	N22-40-18 MOD	N22-40-1,5	115,0	98,0	4 ½"-8 (114)
3¾"	2	610	N22-40-24 MOD	N22-40-2			
95,3 mm	3	915	N22-40-36 MOD	N22-40-3			

Coupling, Tubing



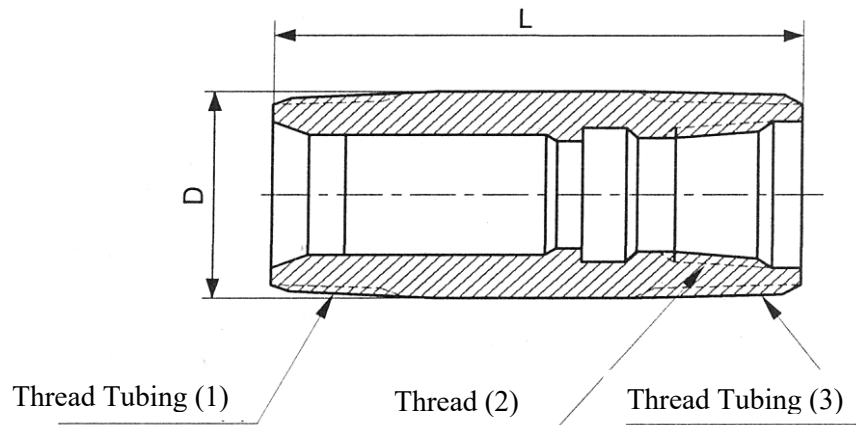
Pump Bore	API Designation	Part Number	L, mm	D, mm	Thread (1)	Thread (2)
125 – 1¼" (31,8 mm)	-	C34-20-125	95	56,0	1,66-10 (42 upset)	2 ¾"-10 (60)
175 – 1¾" (44,5 mm)	C34-20MOD	C34-20	110	73,0	2 ¾"-10 (60)	2 ¾"-10 (60)
225 – 2¼" (57,2 mm)	C34-25MOD	C34-25	132	89,0	2 7/8"-10 (73)	2 7/8"-10 (73)
275 – 2¾" (69,9 mm)	C34-30MOD	C34-30	146	108,0	3 ½"-10 (89)	3 ½"-10 (89)
375 – 3¾" (95,3 mm)	C34-40MOD	C34-40	156	132,5	4 ½"-8 (114)	4 ½"-8 (114)

Coupling, Barrel



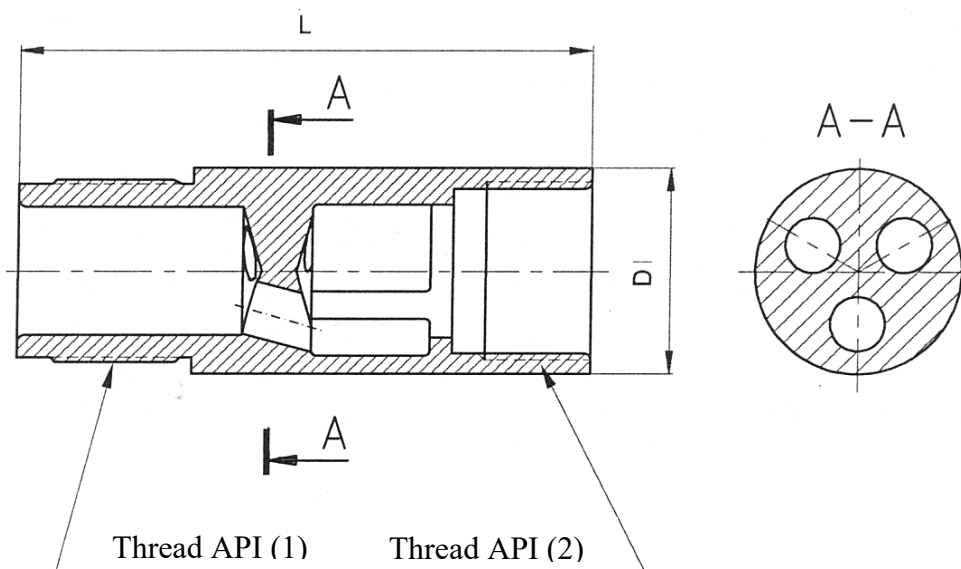
Pump Bore	API Designation	Part Number	L, mm	D, mm	d, mm	Thread	
						(1)	(2)
125 – 1¼" (31,8 mm)	-	C35-20-125	100	56,0	32,5	1,66-10 (42 upset)	39,954-16
175 – 1¾" (44,5 mm)	C35-20 MOD	C35-20	115	73,0	46,1	2 ¾"-10 (60)	56,845-11 ½
225 – 2¼" (57,2 mm)	C35-25 MOD	C35-25	127	89,0	58,8	2 7/8"-10 (73)	69,545-11 ½
275 – 2¾" (69,9 mm)	C35-30 MOD	C35-30	135	108,0	71,5	3 ½"-10 (89)	82,245-11 ½
375 – 3¾" (95,3 mm)	C35-40 MOD	C35-40	145	132,5	97,2	4 ½"-8 (114)	107,645-11 ½

Nipple, Seating, Mechanical Bottom

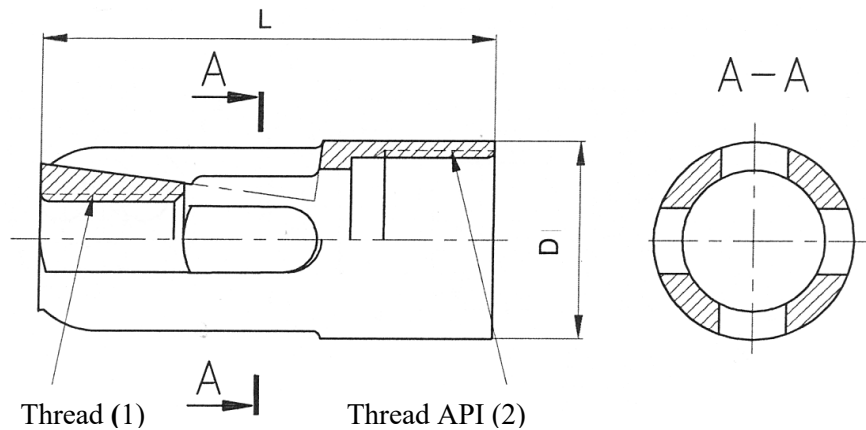


Pump Bore	API Designation	Part Number	L, mm	D, mm	Thread		
					(1)	(2)	(3)
125 – 1¼" (31,8 mm)	-	N12-20-125	160	60,3	1,66-10 (42 upset)	LP 1 ¼"-11,5	2 ⅜"-10 (60)
175 – 1¾" (44,5 mm)	N12-20 MOD	N12-20	175	60,3	2 ⅜"-10 (60)	LP 1 ¼"-11,5	2 ⅜"-10 (60)
225 – 2¼" (57,2 mm)	N12-25 MOD	N12-25	200	73,0	2 ⅞"-10 (73)	LP 1 ½"-11,5	2 ⅞"-10 (73)
275 – 2¾" (69,9 mm)	N12-30 MOD	N12-30	230	89,0	3 ½"-10 (89)	LP 2"-11,5	3 ½"-10 (89)
375 – 3¾" (95,3 mm)	N12-40 MOD	N12-40	240	114,3	4 ½"-8 (114)	LP 2 ½"-11,5	4 ½"-8 (114)

Cage, Closed Barrel

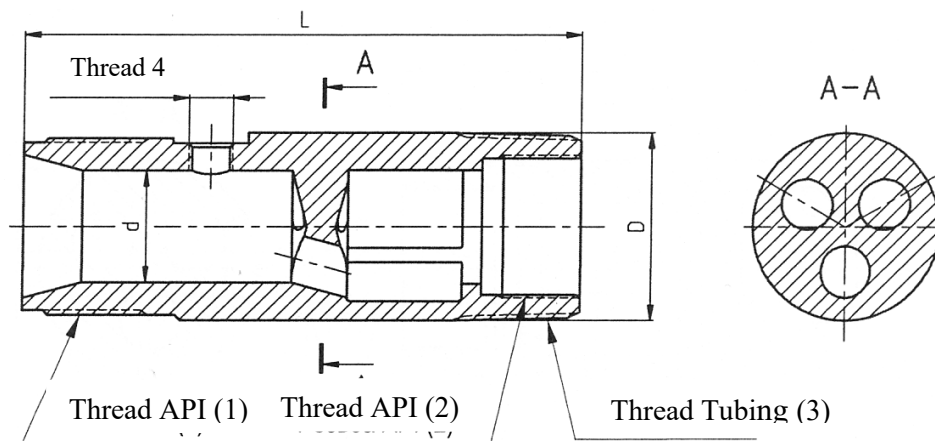


Pump Bore	API Designation	Part Number	Valve	L, mm	D, mm	Thread	
						(1)	(2)
106 – 1,063" (27,0 mm) 125 – 1¼" (31,8 mm)	C14-20	C14-20	V11-175	125	44,7	39,954-16	37,348-14
150 – 1½" (38,1 mm) 175 – 1¾" (44,5 mm)	C14-25	C14-25	V11-225	135	57,4	53,010-16	45,781-14

Cage, Standing Valve


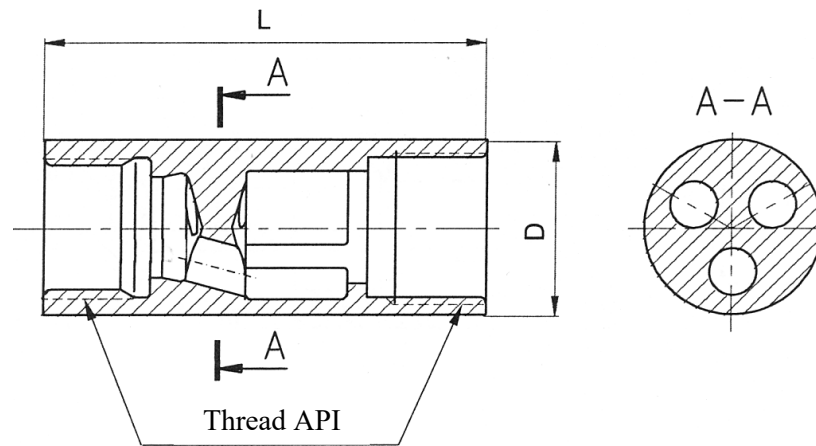
Pump Bore	API Designation	Part Number	Valve	L, mm	D, mm	Thread	
						(1)	(2)
125 – 1¼" (31,8 mm)	-	C16-125	V11-125	77	30,0	M12x1,25	25,4-14
175 – 1¾" (44,5 mm)	C16-175MOD	C16-175	V11-175	95	42,5	19,05-10	37,348-14
225 – 2¼" (57,2 mm)	C16-225MOD	C16-225	V11-225	107	55,0	19,05-10	45,781-14
275 – 2¾" (69,9 mm)	C16-275MOD	C16-275	V11-250	117	67,8	19,05-10	53,581-11 ½
375 – 3¾" (95,3 mm)	C16-375MOD	C16-375	V11-375	155	94,2	19,05-10	80,556-11 ½

A modification with an integrated bottom part of the puller is available

Cage, Closed, Knock-Off Screw


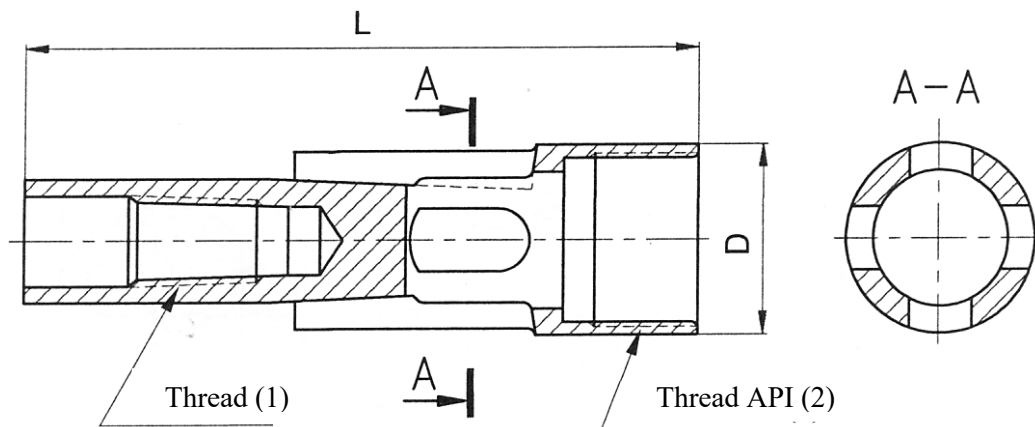
Pump Bore	Part Number	Valve	L, mm	D, mm	Thread			
					(1)	(2)	(3)	(4)
225 2¼" 57,2 mm	C18-25-250	V11-250	202	73,0	69,545-11 ½	53,581-11 ½	2 ⅞"-10 (73)	M16x1,5
275 2¾" 69,9 mm	C18-30-250	V11-250	215	88,9	82,245-11 ½	53,581-11 ½	3 ½"-10 (89)	M18x1,5

Cage, Closed, Pin Plunger

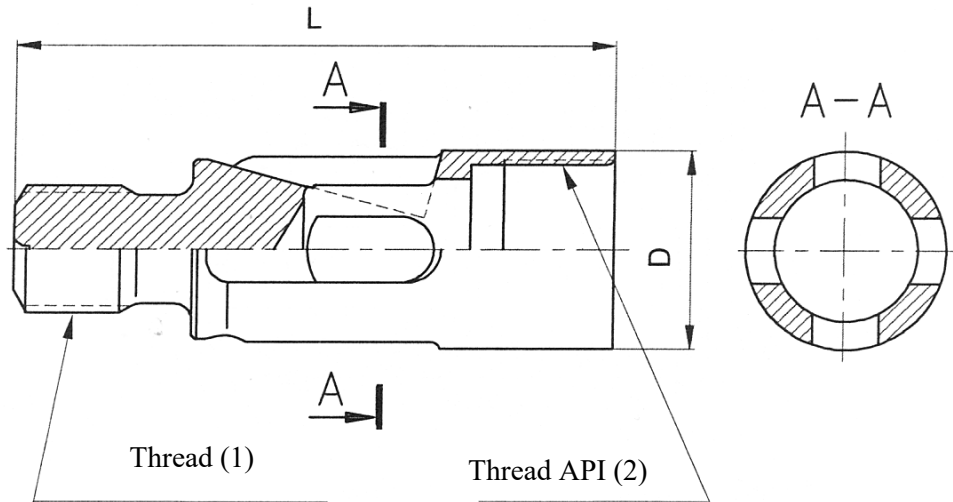


Pump Bore	API Designation	Part Number	Valve	L, mm	D, mm	Thread
106 – 1,063" (27,0 mm)	C13-106 MOD	C13-106	V11-106	82	26,3	22,225-14
125 – 1¼" (31,8 mm)	C13-125 MOD	C13-125	V11-125	90	30,0	25,400-14
150 – 1½" (38,1 mm)	C13-150 MOD	C13-150	V11-150	99	37,0	31,750-14
175 – 1¾" (44,5 mm)	C13-175 MOD	C13-175	V11-175	106	42,5	37,348-14
225 – 2¼" (57,2 mm)	C13-225 MOD	C13-225	V11-225	118	55,0	45,781-14
275 – 2¾" (69,9 mm)	C13-275 MOD	C13-275	V11-250	132	67,8	53,581-11 ½
375 – 3¾" (95,3 mm)	C13-375 MOD	C13-375	V11-375	180	92,7	80,556-11 ½

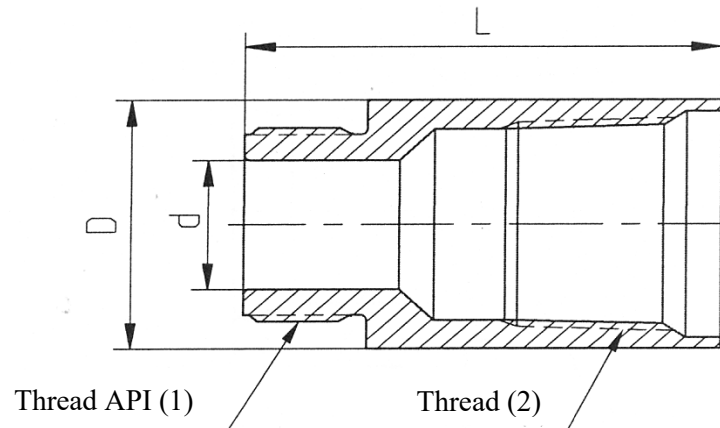
Cage, Top Plunger



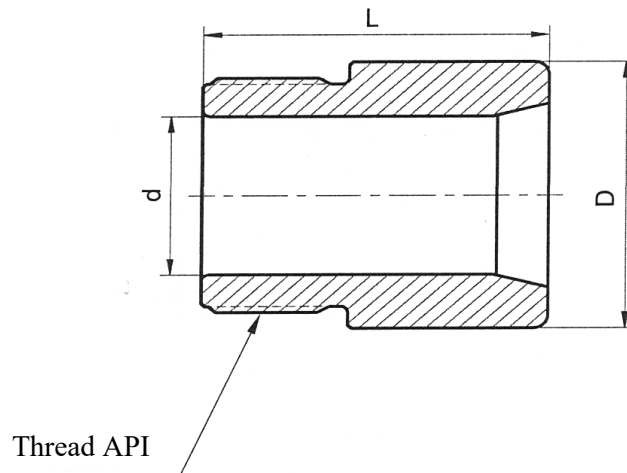
Pump Bore	API Designation	Part Number	L, mm	D, mm	Thread	
					(1)	(2)
106 – 1,063" (27,0 mm)	C12-106 MOD	C12-106	115	26,6	K ¾"-18	22,225-14
125 – 1¼" (31,8 mm)	C12-125 MOD	C12-125	115	30,0	K ¾"-18	25,400-14
150 – 1½" (38,1 mm)	C12-150-25 MOD	C12-150	127	37,0	K ½"-14	31,750-14
175 – 1¾" (44,5 mm)	C12-175 MOD	C12-175	137	42,5	K ½"-14	37,348-14

Cage, Top Open


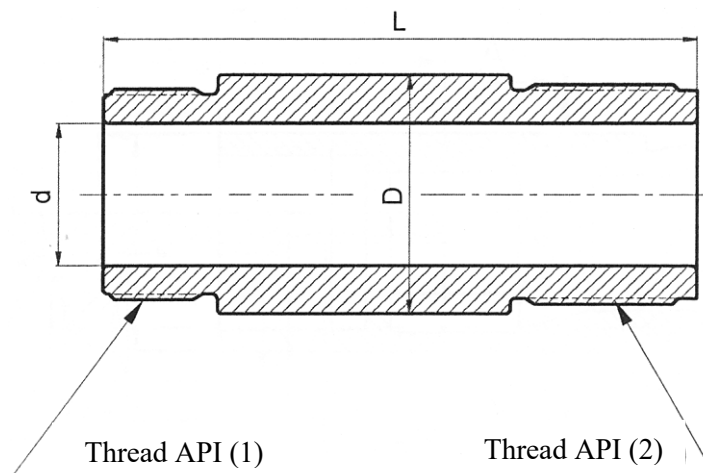
Pump Bore	API Designation	Part Number	L, mm	D, mm	Thread	
					(1)	(2)
175 – 1¾" (44,5 mm)	C11-20 MOD	C11-20	125	42,5	¾" SR-10 (III19)	37,348-14
225 – 2¼" (57,2 mm)	C11-25 MOD	C11-25	137	55,0	¾" SR-10 (III19)	45,781-14
275 – 2¾" (69,9 mm)	C11-30 MOD	C11-30	156	67,8	7/8" SR-10 (III22)	53,581-11 ½
375 – 3¾" (95,3 mm)	C11-40 MOD	C11-40	180	92,0	1" SR-10 (III25)	80,556-11 ½

Bushing, Seat, Barrel Cage


Pump Bore	API Designation	Part Number	L, mm	D, mm	d, mm	Thread	
						(1)	(2)
106 – 1,063" (27,0 mm) 125 – 1¼" (31,8 mm)	B22-20	B22-20	60	44,45	25	37,348-14	LP 1"-B
150 – 1½" (38,1 mm) 175 – 1¾" (44,5 mm)	B22-25	B22-25	70	57,15	30	45,781-14	LP 1 ¼"
225 – 2¼" (57,2 mm)	B22-30	B22-30	76	59,0	36	53,581-11 ½	LP 1 ½"

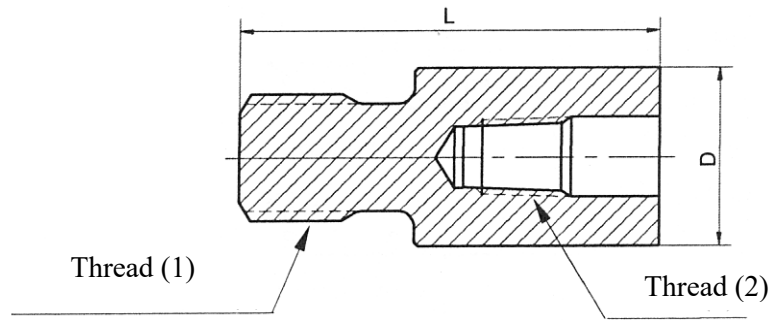
Plug, Seat


Pump Bore	API Designation	Part Number	L, mm	D, mm	d, mm	Thread
106 – 1,063" (27,0 mm)	P12-106	P12-106	45	26,0	15	22,225-14
125 – 1¼" (31,8 mm)	P12-125	P12-125	45	30,0	16	25,400-14
150 – 1½" (38,1 mm)	P12-150	P12-150	45	37,0	20	31,750-14
175 – 1¾" (44,5 mm)	P12-175	P12-175	47	43,0	25	37,348-14
225 – 2¼" (57,2 mm)	P12-225	P12-225	49	56,0	30	45,781-14
275 – 2¾" (69,9 mm)	P12-250	P12-250	50	62,0	36	53,581-11½

Connector, Upper Barrel


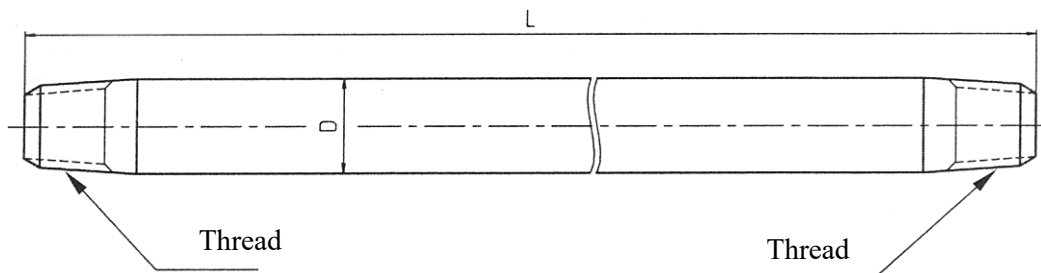
Pump Bore	API Designation	Part Number	L, mm	D, mm	d, mm	Thread	
						(1)	(2)
125 – 1¼" (31,8 mm)	C21-20MOD	C21-20	122	44,7	24,0	37,348-14	39,954-16
175 – 1¾" (44,5 mm)	C21-25MOD	C21-25	136	57,4	32,0	45,781-14	53,010-16

Bushing, Valve Rod



Pump Bore	API Designation	Designation	L, mm	D, mm	Thread	
					(1)	(2)
106 – 1,063" (27,0 mm) 125 – 1¼" (31,8 mm)	B21-20	B21-20	90	38,1	¾" SR-10 (III19)	K ⅜"-18
150 – 1½" (38,1 mm) 175 – 1¾" (44,5 mm)	B21-25	B21-25	96	41,3	¾" SR-10 (III19)	K ½"-14

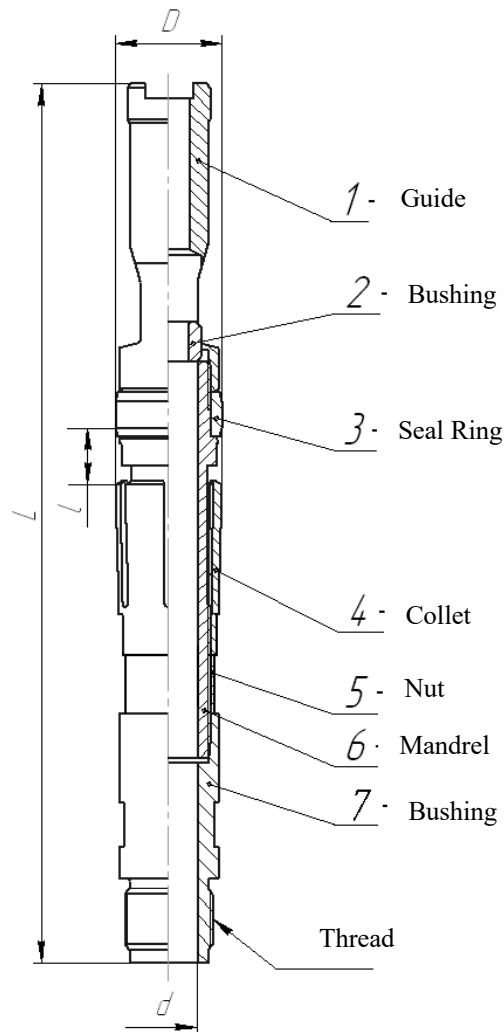
Rod, Valve



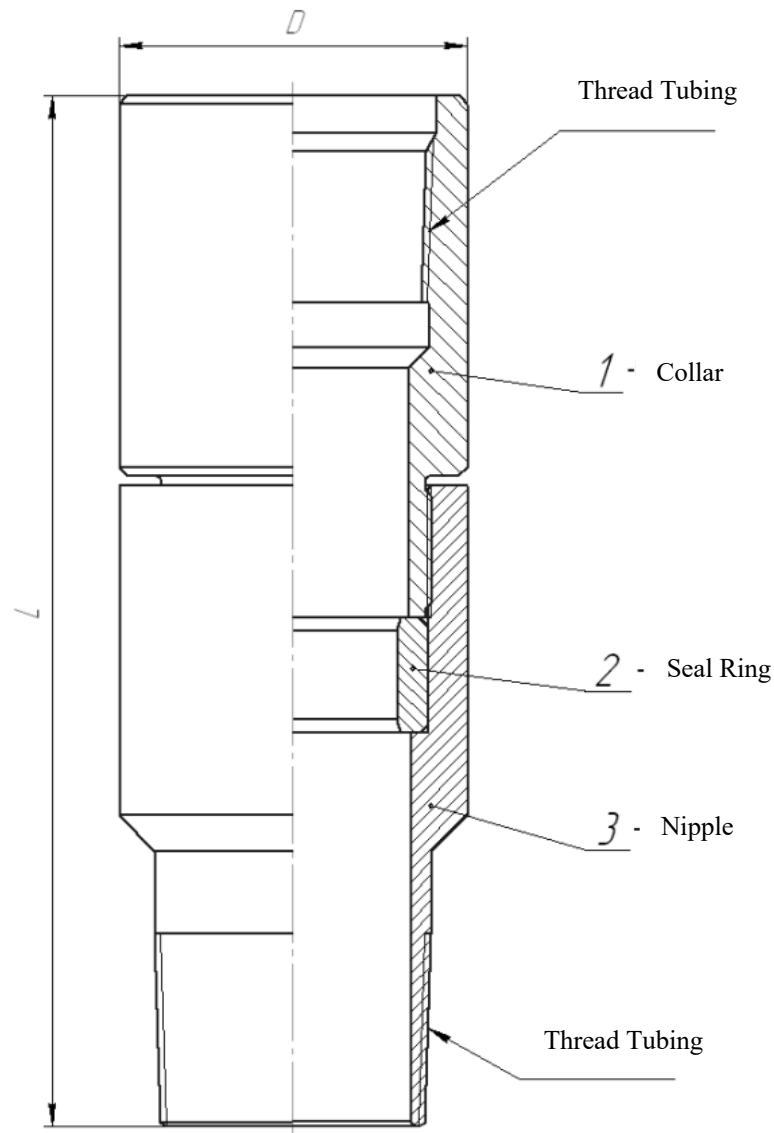
Pump Bore	API Designation	Part Number	D, mm	Thread
106 – 1,063" (27,0 mm) 125 – 1¼" (31,8 mm)	R11-20	R11-20-xxxx*	18	K ⅜"-18
150 – 1½" (38,1 mm) 175 – 1¾" (44,5 mm)	R11-25	R11-25-xxxx*	23	K ½"-14

* - Specify Length in mm (1500÷5000 mm)

Seating Assembly, Mechanical Top Lock

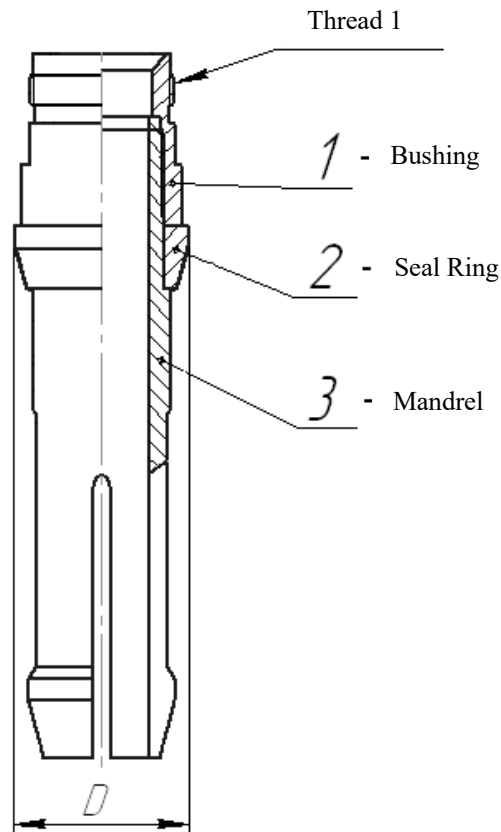


Pump Bore	API Designation	Assembly Number	Parts		D, mm	d, mm	L, mm	l, mm	Thread
			Item	Number					
106 1,063" 27,0 mm & 125 1¼" 31,8 mm	S21-20 MOD	S21-20	1	G11-20	49,7	26	400	23,99 ^{-0,05}	39,954-16
			2	G111-20					
			3	S211-20					
			4	S213-20					
			5	S214-20					
			6	S212-20					
			7	S215-20					
150 1½" 38,1 mm & 175 1¾" 44,5 mm	S21-25 MOD	S21-25	1	G11-25	61,3	34	425	22,72 ^{-0,05}	53,010-16
			2	G111-25					
			3	S211-25					
			4	S213-25					
			5	S214-25					
			6	S212-25					
			7	S215-25					

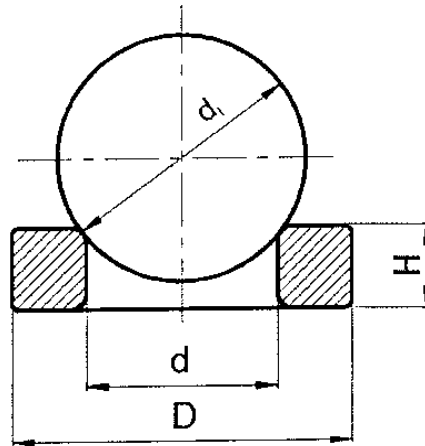
Nipple, Seating, Mechanical Top Lock


Pump Bore	API Designation	Assembly Number	Parts		D, mm	L, mm	Thread
			Item	Number			
106 - 1,063" (27,0 mm) & 125 - 1¼" (31,8 mm)	N14-20 MOD	N14-20	1	N141-20	76	225	2 ⅜"-10 (60)
			2	N142-20			
			3	N143-20			
150 - 1½" (38,1 mm) & 175 - 1¾" (44,5 mm)	N14-25 MOD	N14-25	1	N141-25	92	230	2 ⅞"-10 (73)
			2	N142-25			
			3	N143-25			

Seating Assembly, Mechanical Bottom Lock

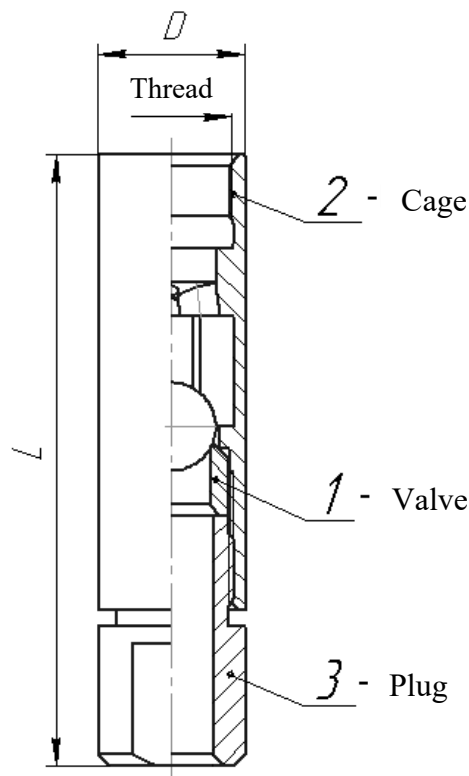


Pump Bore	API Designation	Assembly Number	Parts		D, mm	Thread
			Item	Number		
125 - 1¼" (31,8 mm) (THM)	-	S22-20-125	1	S221-20-125	30,0	25,400-14
			2	S222-20-125		
			3	S223-20-125		
125 - 1¼" (31,8 mm) (RHBM) 175 - 1¾" (44,5 mm) (THM)	S22-20 MOD	S22-20	1	S221-20	42,5	37,348-14
			2	S222-20		
			3	S223-20		
175 - 1¾" (44,5 mm) (RHBM) 225 - 2¼" (57,2 mm) (THM)	S22-25 MOD	S22-25	1	S221-25	55,0	45,781-14
			2	S222-25		
			3	S223-25		
275 - 2¾" (69,9 mm) (THM)	S22-30 MOD	S22-30	1	S221-30	68,0	53,581-11,5
			2	S222-30		
			3	S223-30		
375 - 3¾" (95,3 mm) (THM)	S22-40 MOD	S22-40	1	S221-40	93,5	80,556-11,5
			2	S222-40		
			3	S223-40		

Valve, Ball and Seat


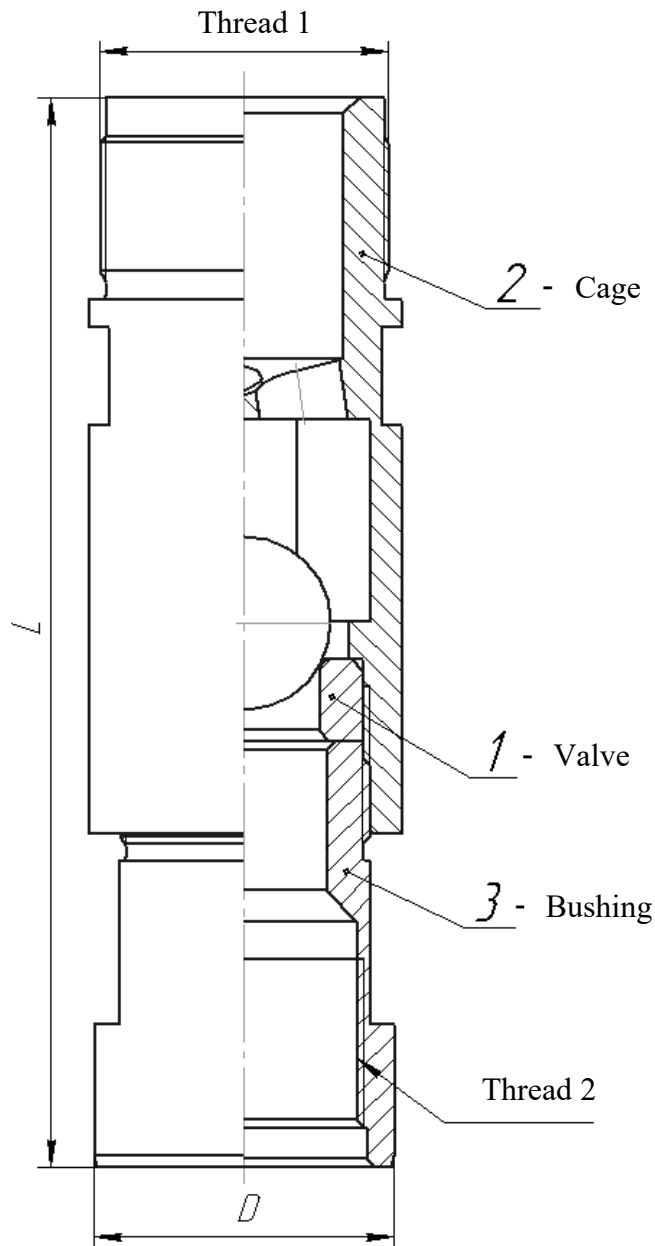
API Designation	Assembly Number	Dimensions, mm			
		D	d	d ₁	H
VII-106	VII-106	20,14	11,89	15,875	12,7
VII-125	VII-125	23,32	14,61	19,05	12,7
VII-150	VII-150	29,67	17,83	23,813	12,7
VII-175	VII-175	35,26	21,08	28,575	12,7
VII-225	VII-225	43,69	26,57	34,925	12,7
VII-250	VII-250	51,05	32,13	42,8625	12,7
V11-375	V11-375	78,03	47,75	57,15	19,05

Valve types: Available materials for balls and seats: A1, A2, A3, A4, A5, A6, B1, C1, D1.

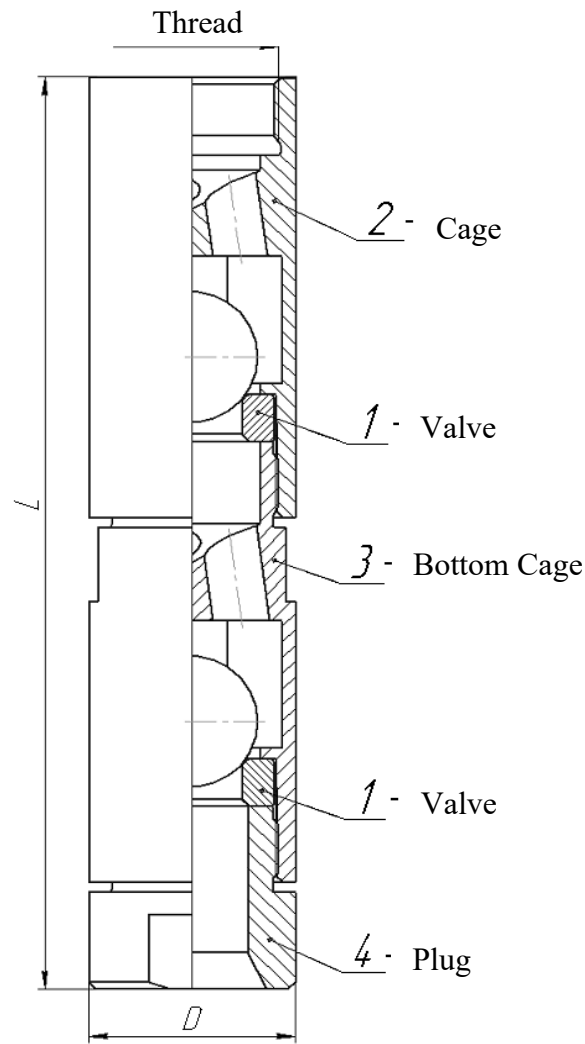
Valve assembly, Traveling


Pump Bore	Assembly Number	Parts		D, mm	L, mm	Thread
		Item	Number			
106 1,063" 27,0 mm	TVA-106	1	V11-106	26,3	111,1	22,225-14
		2	C13-106			
		3	P12-106			
125 1¼" 31,8 mm	TVA-125	1	V11-125	30,0	119,1	25,400-14
		2	C13-125			
		3	P12-125			
150 1½" 38,1 mm	TVA-150	1	V11-150	37,0	128,1	31,750-14
		2	C13-150			
		3	P12-150			
175 1¾" 44,5 mm	TVA-175	1	V11-175	43,0	135,5	37,348-14
		2	C13-175			
		3	P12-175			
225 2¼" 57,2 mm	TVA-225	1	V11-225	56,0	145,9	45,781-14
		2	C13-225			
		3	P12-225			
275 2¾" 69,9 mm	TVA-275	1	V11-250	67,8	160,4	53,581-11,5
		2	C13-275			
		3	P12-250			

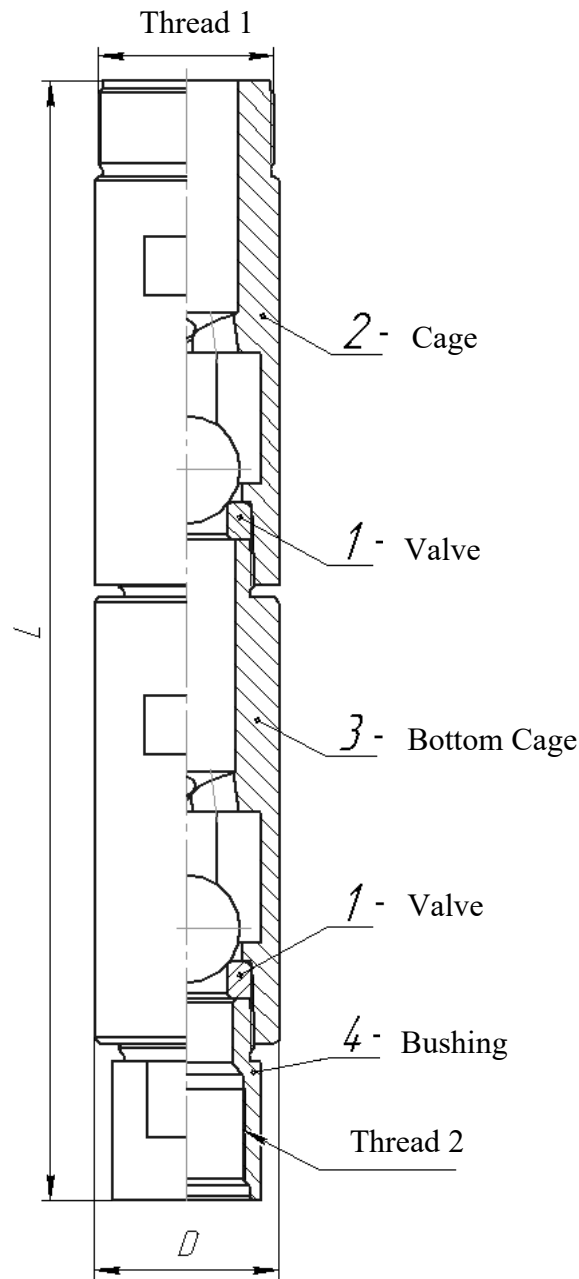
Valve assembly, Standing



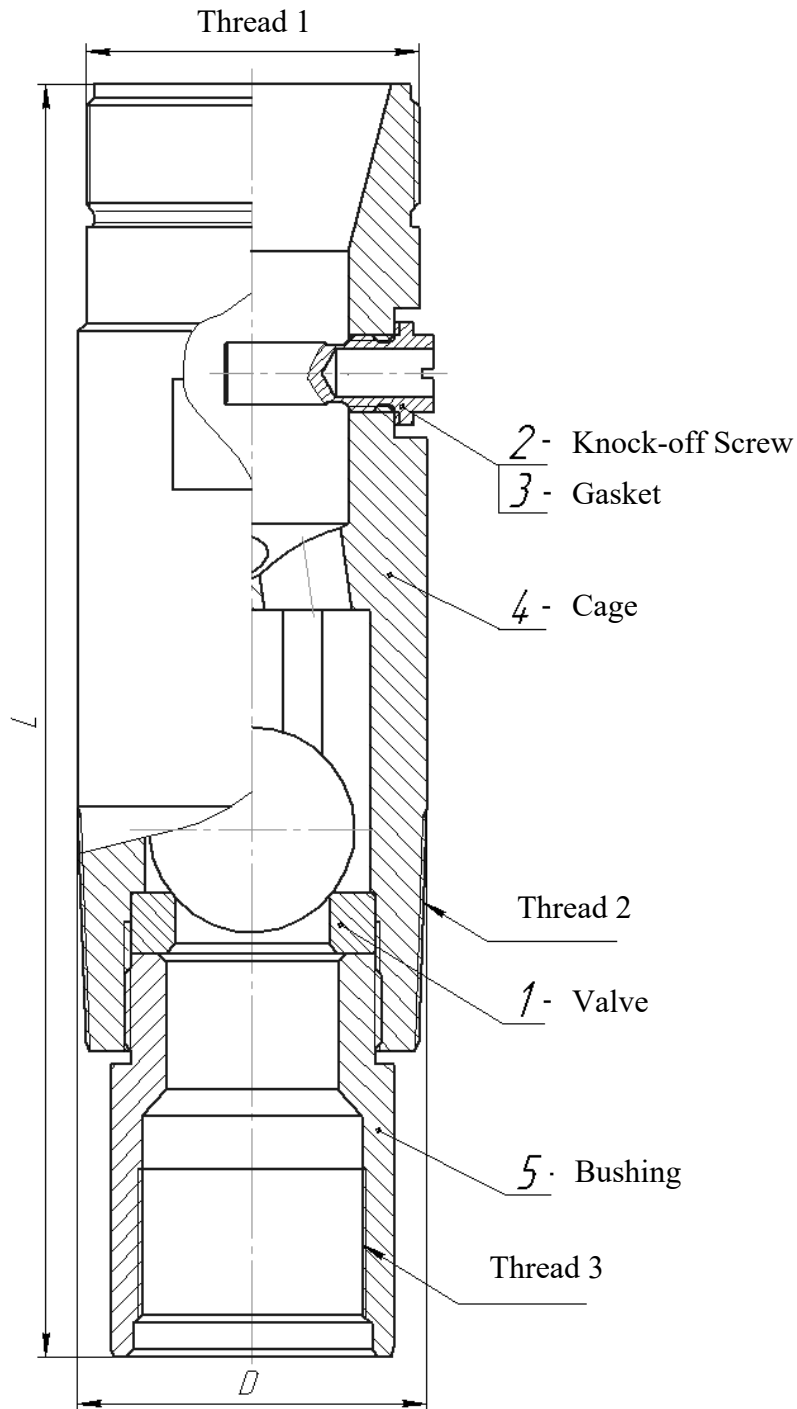
Pump Bore	Assembly Number	Parts		D, mm	L, mm	Thread	
		Item	Number			(1)	(2)
106 – 1,063" (27,0 mm) 125 – 1¼" (31,8 mm)	SVA-20	1	V11-175	42,5	185	39,954-16	G 1"-B
		2	C14-20				
		3	B22-20				
150 – 1½" (38,1 mm) 175 – 1¾" (44,5 mm)	SVA-25	1	V11-225	55,0	228	53,010-16	G 1 ¼"-B
		2	C14-25				
		3	B22-25				

Valve assembly, Double, Traveling


Pump Bore	Assembly Number	Parts		D, mm	L, mm	Thread
		Item	Number			
106 1,063" 27,0 mm	TVAD-106	1	V11-106	26,3	176	22,225-14
		2	C13-106			
		3	C131-106			
		4	P12-106			
125 1¼" 31,8 mm	TVAD-125	1	V11-125	30,0	176	25,400-14
		2	C13-125			
		3	C131-125			
		4	P12-125			
150 1½" 38,1 mm	TVAD-150	1	V11-150	37,0	200	31,750-14
		2	C13-150			
		3	C131-150			
		4	P12-150			
175 1¾" 44,5 mm	TVAD-175	1	V11-175	42,5	212	37,348-14
		2	C13-175			
		3	C131-175			
		4	P12-175			

Valve assembly, Double, Standing


Pump Bore	Assembly Number	Parts		D, mm	L, mm	Thread	
		Item	Number			(1)	(2)
106 – 1,063" (27,0 mm) 125 – 1¼" (31,8 mm)	SVAD-20	1	V11-175	42,5	263	39,954-16	G 1"-B
		2	C14-20				
		3	C131-175				
		4	B22-20				
150 – 1½" (38,1 mm) 175 – 1¾" (44,5 mm)	SVAD-25	1	V11-225	55,0	284	53,010-16	G 1 ¼"-B
		2	C14-25				
		3	C131-225				
		4	B22-25				

Valve assembly, Knock-off Screw, Standing


Pump Bore	Assembly Number	Parts		D, mm	L, mm	Thread		
		Item	Number			(1)	(2)	(3)
225 2¼" 57,2 mm	SVAK-25	1	V11-250	73,0	257,5	69,545-11½"	2⅞"-10 (73)	LP 1½"
		2	C181-25					
		3	C182-25					
		4	C18-25-250					
		5	B22-30					
275 2¾" 69,9 mm	SVAK-30	1	V11-250	88,9	272,7	82,245-11½"	3½"-10 (89)	LP 1½"
		2	C181-30					
		3	C182-30					
		4	C18-30-250					



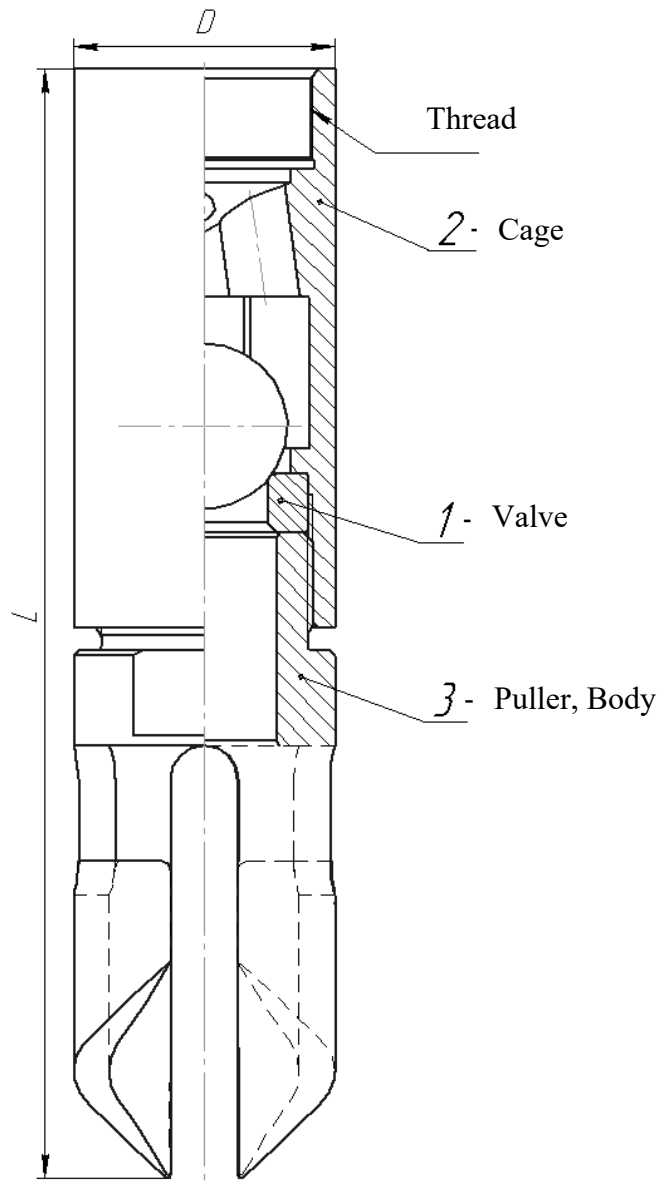
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info@libragroup.sk

**Subsurface
Sucker Rod Pumps**

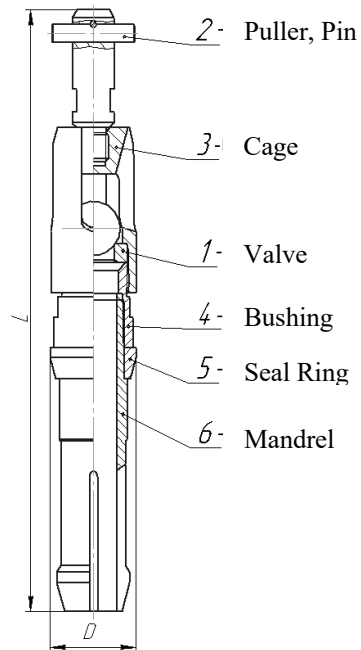
27

Rev. 1-2025

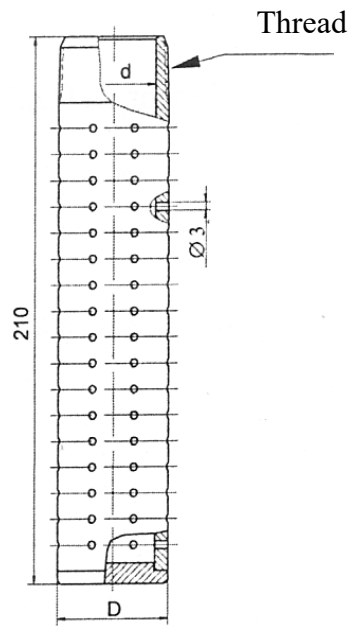
		5	B22-30					
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Pulling Valve, Body, Sure-Lock Type


Pump Bore	Assembly Number	Parts		D, mm	L, mm	Thread
		Item	Number			
125 1¼" 31,8 mm	TVAP-125	1	V11-125	31,0	153,0	25,400-14
		2	C13-125			
		3	P311-125			
175 1¾" 44,5 mm	TVAP-175	1	V11-175	42,5	187,7	37,348-14
		2	C13-175			
		3	P311-175			
225 2¼" 57,2 mm	TVAP-225	1	V11-225	55,0	232,7	45,781-14
		2	C13-225			
		3	P311-225			
275 2¾" 69,9 mm	TVAP-275	1	V11-250	67,5	264,7	53,581-11½
		2	C13-275			
		3	P311-275			
375 3¾" 95,3 mm	TVAP-375	1	V11-375	92,7	315,0	80,556-11½
		2	C13-375			
		3	P311-375			

Pulling Valve, Pin, Sure-Lock Type


Pump Bore	Assembly Number	Parts		D, mm	L, mm
		Item	Number		
125 1¼" 31,8 mm	SVAP-125	1	V11-125	30,0	263
		2	P312-125		
		3	C16-125		
		4	S221-20-125		
		5	S222-20-125		
		6	S223-20-125		
175 1¾" 44,5 mm	SVAP-175	1	V11-175	42,5	354
		2	P312-175		
		3	C16-175		
		4	S221-20		
		5	S222-20		
		6	S223-20		
225 2¼" 57,2 mm	SVAP-225	1	V11-225	55,0	414
		2	P312-225		
		3	C16-225		
		4	S221-25		
		5	S222-25		
		6	S223-25		
275 2¾" 69,9 mm	SVAP-275	1	V11-250	68,0	467
		2	P312-275		
		3	C16-275		
		4	S221-30		
		5	S222-30		
		6	S223-30		
375 3¾" 95,3 mm	TVAP-375	1	V11-375	94,2	510
		2	P312-375		
		3	C16-375		
		4	S221-40		
		5	S222-40		
		6	S223-40		

Protection filter


Pump Bore	Assembly Number	D	d	Thread
106 – 1,063" (27,0 mm)	PF-20	34	24	LP 1"
125 – 1¼" (31,8 mm)				
150 – 1½" (38,1 mm)	PF-25	42	32	LP 1¼"
175 – 1¾" (44,5 mm)				
225 – 2¼" (57,2 mm)	PF-30	48	38	LP 1½"

Appendices

Groups of coupling fits «plunger – barrel»

Group of fit (Fit)	Clearance between the barrel and plunger, mm
1	From 0,025 to 0,088
2	From 0,050 to 0,113
3	From 0,075 to 0,138
4	From 0,100 to 0,163
5	From 0,125 to 0,188

1 inch = 25,4 mm

1 foot = 304,8 mm