



RADIAL PISTON PUMP 12RC

ENGINEERING

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Ref. No. P09207
Release 06/2006

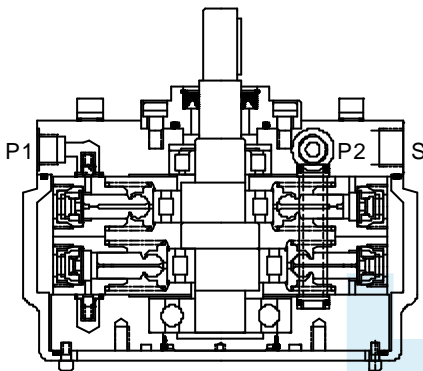
Description

Radial piston arrangement, with 5 or 7 pumping elements each per pump section. External mounting type. Face mounting, Valve controlled, Fixed delivery. Bi-directional rotation of shaft. Available with extension shaft for through drive. With extension bracket assembly for coupling a low pressure pump having standard flange.

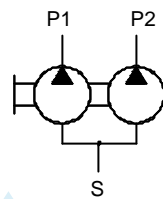
Flows can be combined internally, externally to feed one circuit or used independently to feed Two circuits.



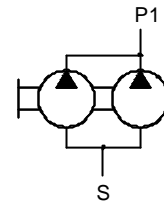
Section



Hydraulic Symbol



Independent
Double Flows

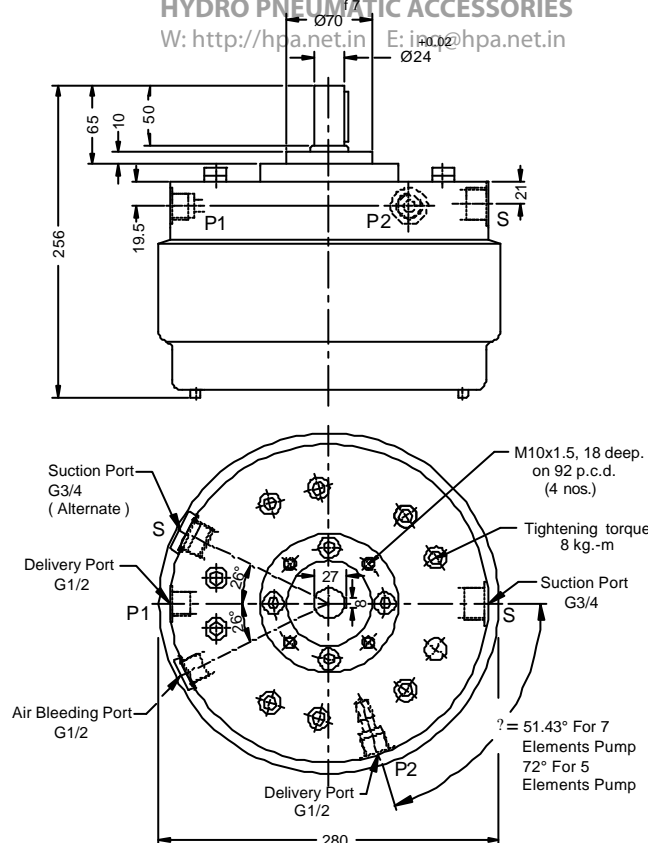


Internally combined
Single Flow

Unit dimension

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Dimensions in mm.



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RADIAL PISTON PUMP 12RC

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Technical specification

Designation	12RC basic radial piston pump group.
Design	Radial piston, valve controlled.
No. of pistons	5 or 7; depending upon flow requirement.
Mounting	Face mounting.
Interface	Factory standard.
Direction of rotation	12RC Can be run in either direction. 12RCE Depends upon the direction of rotation of pump attached.
Connection	Suction G 3/4 female. Suction head — The oil level can be max. 300 mm below the suction port of the pump. Suction pipe size — 30 o. d. x 2 th. (as far as possible use straight pipe) Delivery G 1/2 female.
Speed range	1000 to 2000 rpm.
Hydraulic medium	Mineral oil.
Viscosity range	10 to 100 cSt.
Optimum Viscosity range	16 to 32 cSt.
Temperature range	-10 °C to +80 °C. (Do not exceed viscosity limits at extreme temperatures for efficient running of the pump)
Fluid cleanliness requirement	As per ISO Code 16/13.
Performance	Refer Table.
Mass	30 kg.
Suction pressure	0.02 to 3 bar positive

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Table no. 1.

Code No.	Geometrical displacement CC / REV	Rated output at 1450 rpm l / min	Rated output at 1450 rpm & 95% efficiency l/min.	Operating pressure bar	Input power requirement (@ 1450 rpm & 95% efficiency)																		
					50 bar		100 bar		150 bar		200 bar		250 bar		300 bar		315 bar		350 bar		400 bar		
					kW	hp	kW	hp	kW	hp	kW	hp	kW	hp	kW	hp	kW	hp	kW	hp	kW	hp	
5A	7.7	11.2	10.6	400	1	1.4	2.1	2.8	3.1	4.2	5.6	4.1	5.6	5.1	7	6.2	8.4	6.5	8.8	7.2	9.8	8.2	11.1
7A	10.8	15.7	14.9	400	1.4	2	2.9	3.9	4.3	5.9	5.8	7.8	7.2	9.8	8.7	11.8	9.1	12.3	10.1	13.7	11.5	15.7	
5B	10.1	14.7	14	315	1.4	1.8	2.7	3.7	4.1	5.5	5.4	7.3	6.8	9.2	8.1	11	8.5	11.6					
7B	14.1	20.5	19.5	315	1.9	2.6	3.8	5.1	5.7	7.7	7.5	10.2	9.4	12.8	11.3	15.4	11.9	16.1					
5C	12.7	18.5	17.6	250	1.7	2.3	3.4	4.6	5.1	6.9	6.8	9.2	8.5	11.5									
7C	17.8	25.8	24.5	250	2.4	3.2	4.7	6.4	7.5	9.7	9.5	12.9	11.9	16.1									

Note :

For double pumps, the above pump code number needs to be modified in the following manner. The first digit in the code number indicates number of pumping elements in each pump section. The second letter indicates flow and pressure rating of the pumping elements of P1 port end section and the third letter indicates flow and pressure rating of the pump elements of P2 port end section. Code no. 5AC for example, indicates a double pump having a flow and pressure rating of 5A for P1 port end section and 5C rating for P2 port end section.



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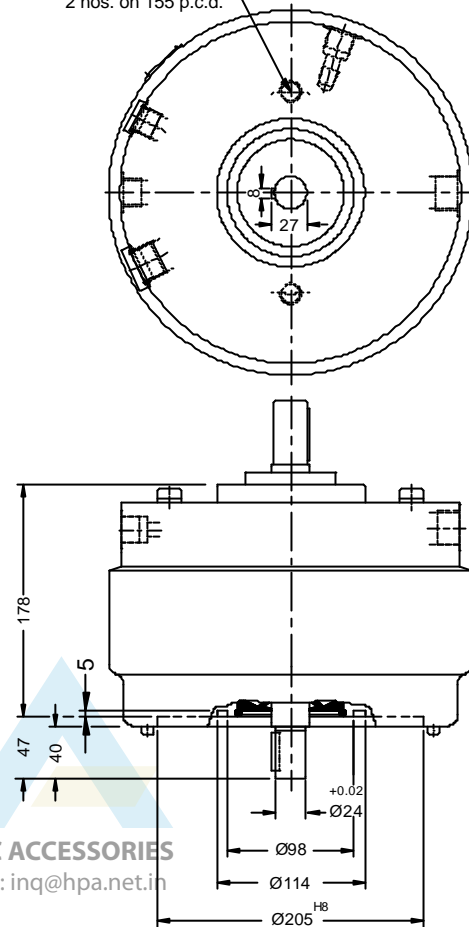
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Ref. No. P09207

Accessorie

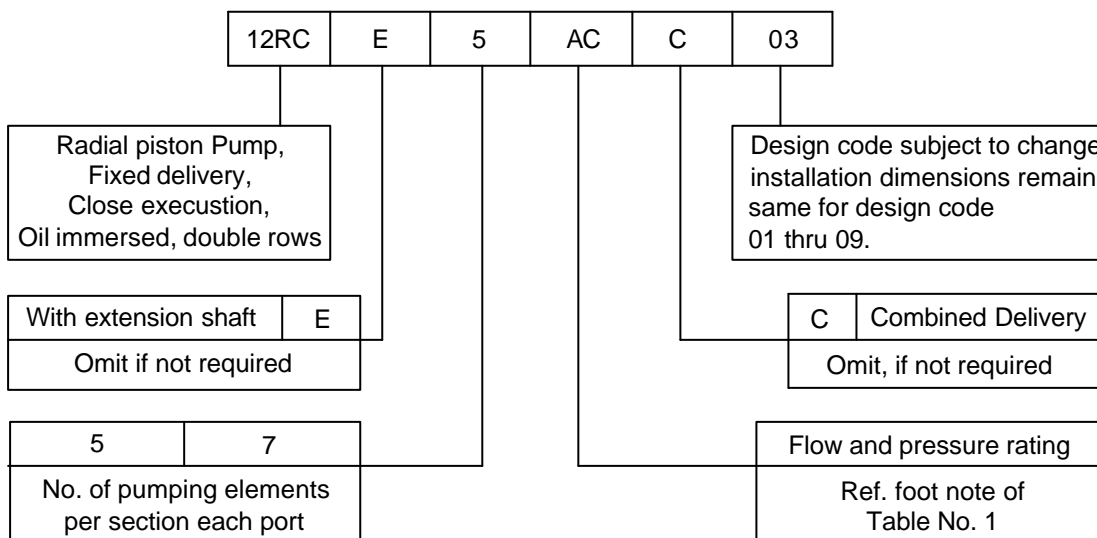
Extension shaft (For through drive)
Unit dimensions

M16x2, 26 deep.
2 nos. on 155 p.c.d.



Note : Torque limitation :- The sum of torque used for the piston pump and torque used at extended shaft end should not exceed 148 Nm. (22.2 kW @ 1450 rpm)

Ordering Code



Note : Bell Housing refer sheet no. P09035.
Extension bracket sheet no. P09090.



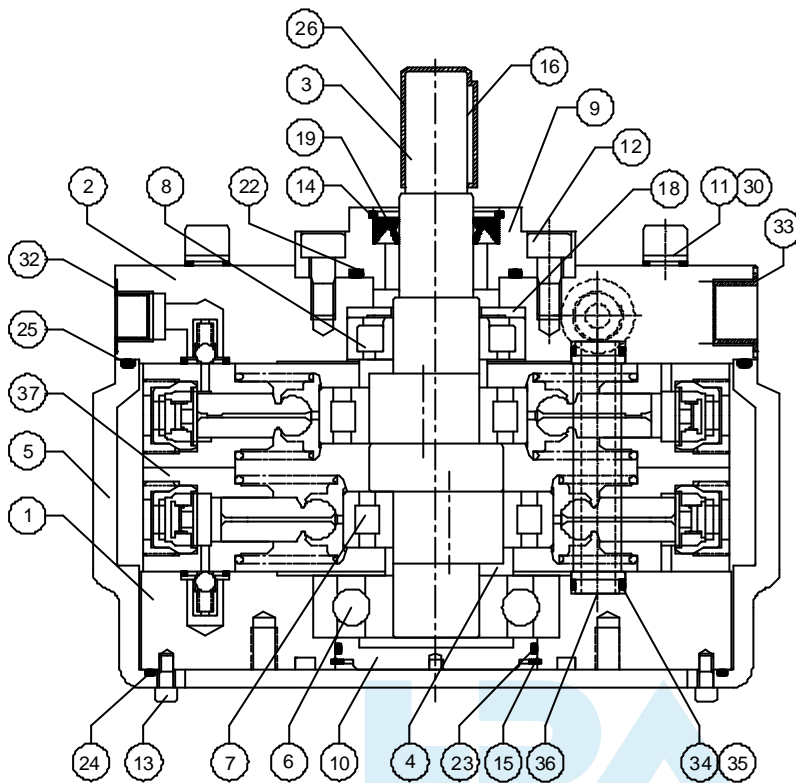
RADIAL PISTON PUMP 12RC

SERVICE

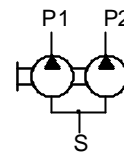
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Ref. No. P09207

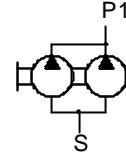
Parts detail & List



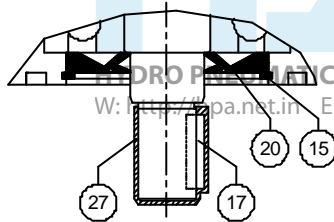
Hydraulic Symbol



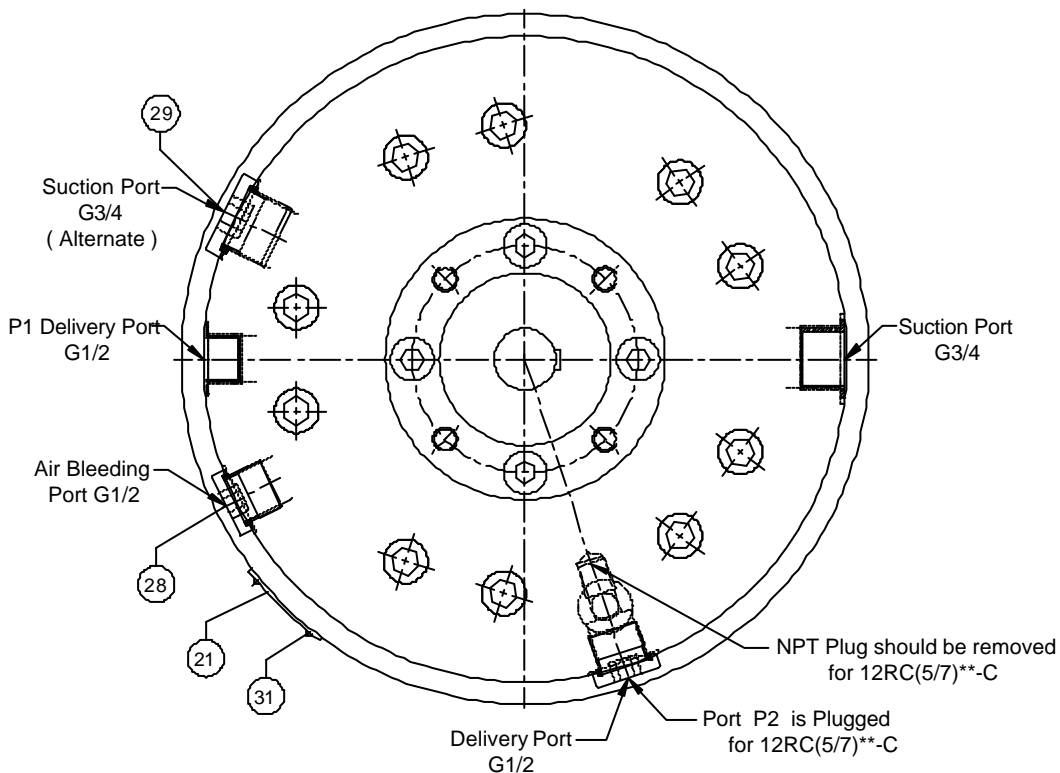
Independent
Double Flows



Internally combined
Single Flow



For 12RCE(5/7)**
& 12RCE(5/7)**-C
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RADIAL PISTON PUMP 12RC

SERVICE

5

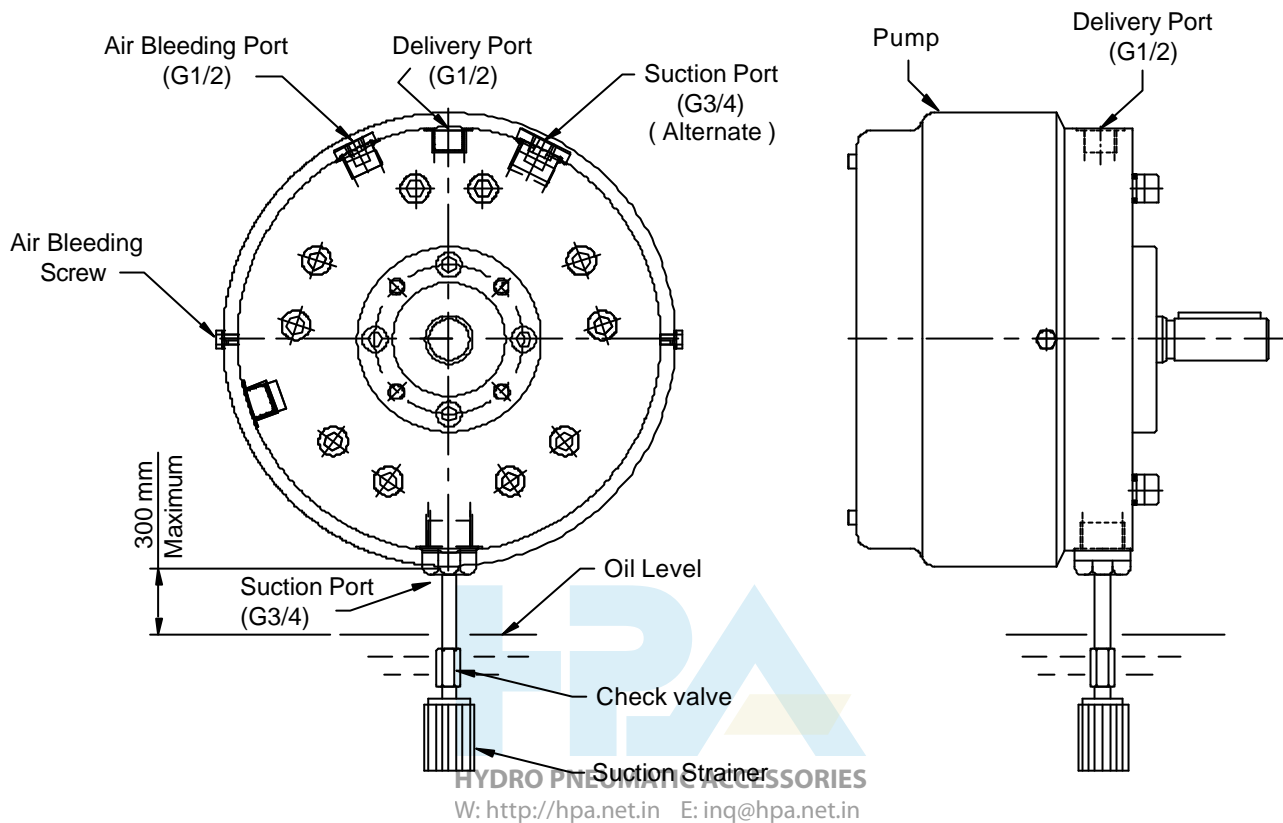
Ref. No. P09207

		12RC(5/7)**/12RC(5/7)**-C	12RCE5/7)**/12RCE(5/7)**-C		
Sl. No.	Description	Part No.		Size	Qty.
1	Valve plate	12201/12203	12201/12203		1
2	Valve plate	12206/12208	12206/12208		1
3	Shaft	12243	12244		1
4	Balancing Plate	12252			2
5	Casing Ring	12232			1
6	Bottom Bearing	12261		6407	1
7	Centre Bearing.	12262		NUP 2206	1
8	Top Bearing.	12263		NJ 207	1
9	Mounting Flange	12235			1
10	End cap	12253	----	Ø82	1
11	Cap screw	12265		M12x140 L	10/14
12	Cap screw	00116		M10x20 L	4
13	Cap screw	00102		M6x16 L	4
14	Circlip	12272		Ø52 (Type B)	1
15	Circlip	12273		Ø82 (Type B)	1
16	Shaft Key	12277		8x7x40	1
17	Shaft Key	----	12278	8x7x30	1
18	Washer	12281			1
* 19	Rotary shaft seal	12266		Dou.Lip 52	1
* 20	Rotary shaft seal	----	12267	Dou.Lip 52	1
21	Label (Caution)	12269			1
22	O'Ring	12281		62x4	1
23	O' Ring	12274	---	76x3	1
24	O' Ring	12275		229x3	1
25	O' Ring	12276		246x4	1
26	Plastic cap	12270		11R	1
27	Plastic cap	----	12271	11RE(Shaft)	1
28	Elastomeric Plug	00204		G 1/2	1 2
29	Elastomeric Plug	00205		G 3/4	1
30	Bonded Seal	00165		M8	10/14
31	Rivet	00001		Ø2, 4.5 L	2
32	Rubber Port Plug	00013		G 1/2 Plug Cap	2
33	Rubber Port Plug	00014		G 3/4 Plug Cap	1
34	O'Ring	12279		17X2.5	2
35	Backup Ring	12280		17.6x22x1.2	2
36	Connecting Pipe	12259			1
Sl. No.	Description	Product		Qty.	
37	Pump element assly. (Refer Data Sheet No. A 12100)	11R-A-01 11R-B-01 11R-C-01		10/14	

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Subject to revision.

Priming procedure for closed execution pump - 12RC

A] When the Pump is mounted Horizontally.



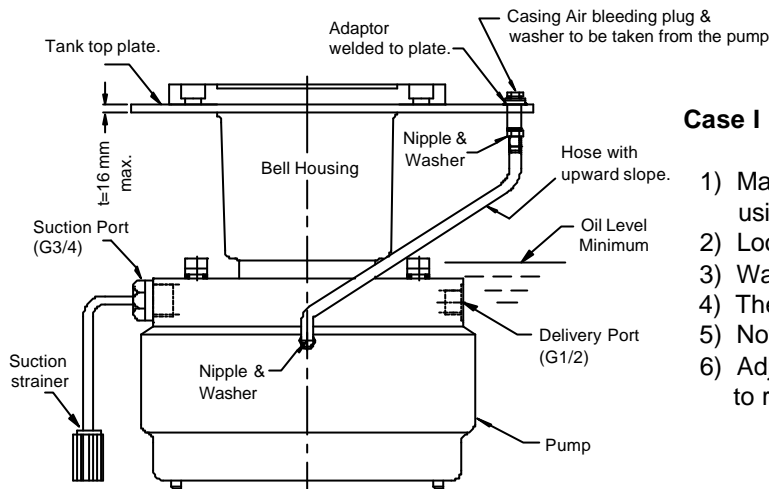
Case I : When the pump suction port height exceeds 300 mm above oil level.

- 1) Provide a check valve with almost zero cracking pressure on the suction pipe. (Refer check valve model code given below).
- 2) Fill up the casing with oil using Alternate Suction port - G3/4 & ensure it to be air tight after filling.
- 3) Connect a hose pipe of suitable size to the air bleeding port - G1/2 & vent it to tank.
- 4) Now, switch on the motor & wait for some time till you get full / uninterrupted flow.
- 5) As soon as you get the uninterrupted flow, switch off the motor & plug the Air Bleeding port.
- 6) Now, run the pump for short period at zero load.
- 7) Adjust the system main pressure relief valve to required value and start using the system.

Case II: When the pump suction port height is less than 300 mm above oil level.

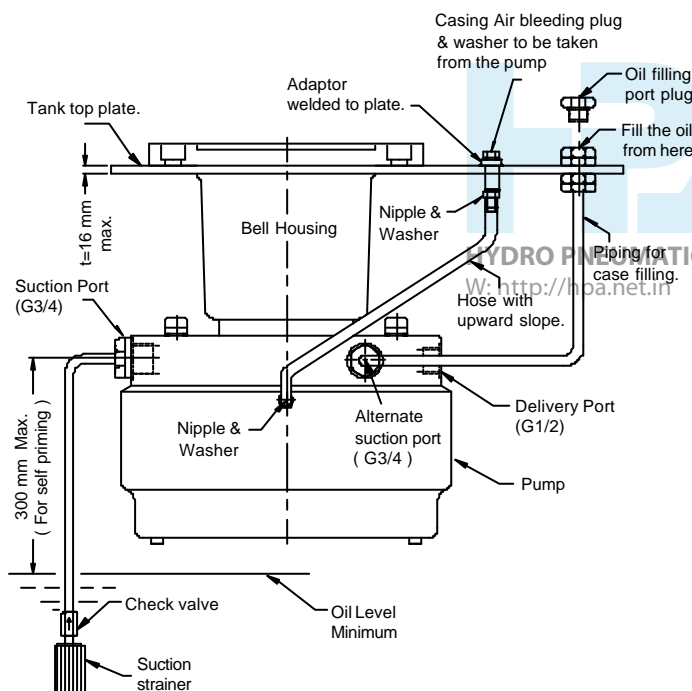
- 1) The pump need not have a check valve as mentioned in Case I.
- 2) During commissioning the Air bleeding port should be kept open to tank by connecting a hose pipe.
- 3) Now, repeat the steps 4 to 7 of Case I.

B] When the Pump is mounted Vertically



Case I : When the pump is immersed in oil.

- 1) Make the connection for air bleeding as shown in fig. using the kit provided with the pump.
- 2) Loosen the Casing air bleeding plug completely.
- 3) Wait for some time for the oil to fill the pump casing.
- 4) The plug may now be tightened.
- 5) Now run the pump for short period at zero load.
- 6) Adjust the main pressure relief valve of the system to required value and start using the system.



Case II: When the pump suction port is above oil level.

- 1) Make the connection for air bleeding as shown in fig. using the kit provided with the pump.
- 2) Fit a check valve with almost zero cracking pressure at the bottom of the suction pipe. (When suction port height exceeds oil level by 300 mm. (Refer check valve model codes given below).
- 3) Now fill the pump casing with oil. This can be done by providing a pipe connection to alternate suction port as shown.
- 4) Now loosen the casing air bleeding plug completely & fill the casing till oil is seen coming out of casing air bleeding port.
- 5) Tighten the casing air bleeding plug once the casing is filled. Also, plug the oil filling port & ensure it to be air tight.
- 6) Now run the pump at zero load for some time.
- 7) Adjust the main pressure relief valve of the system to required value and start using the system.

Note: Priming is not required to be done every time you start the pump after short durations (a day or two) of non-operation.

Suction pipe specification

- 1) 12RC-series : 30 O.D.x 2 mm thick (Preferably straight)

Check valve model code. (To be ordered separately)

- 1) 12RC-series : C20T0-03



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