



A Polyhydron Group Company

RADIAL PISTON PUMP 2RC

ENGINEERING

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Ref. No. P09046
Release 07/2004

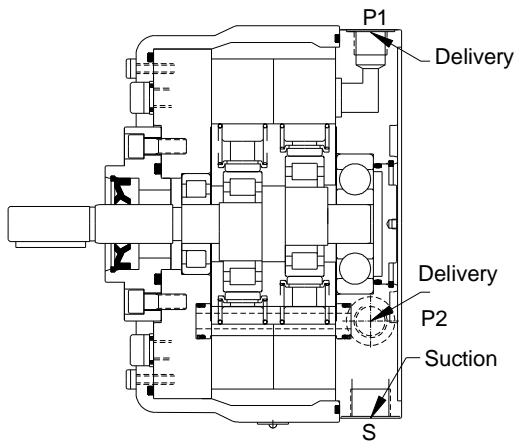
Description

Radial piston arrangement, with 3, 5 or 7 pumping elements. 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.

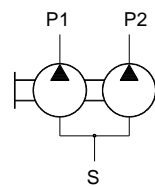
Flows can be combined internally, externally to feed one circuit or used independently to feed Two circuits.



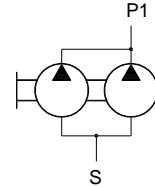
Section



Hydraulic Symbol



Independent Double Flows

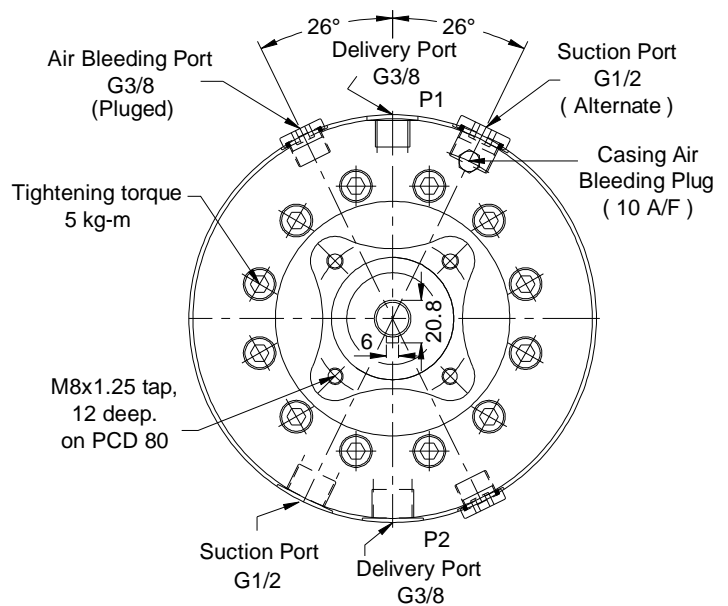
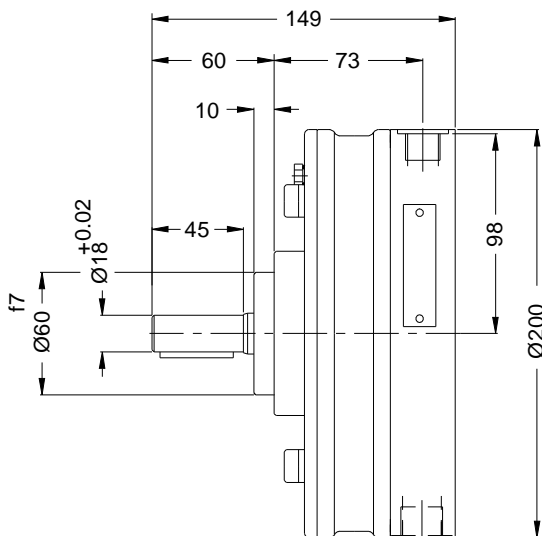
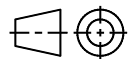


Internally combined Single Flow

Unit dimension

Model : 2RC3** and 2RC3**-C

Dimensions in mm.



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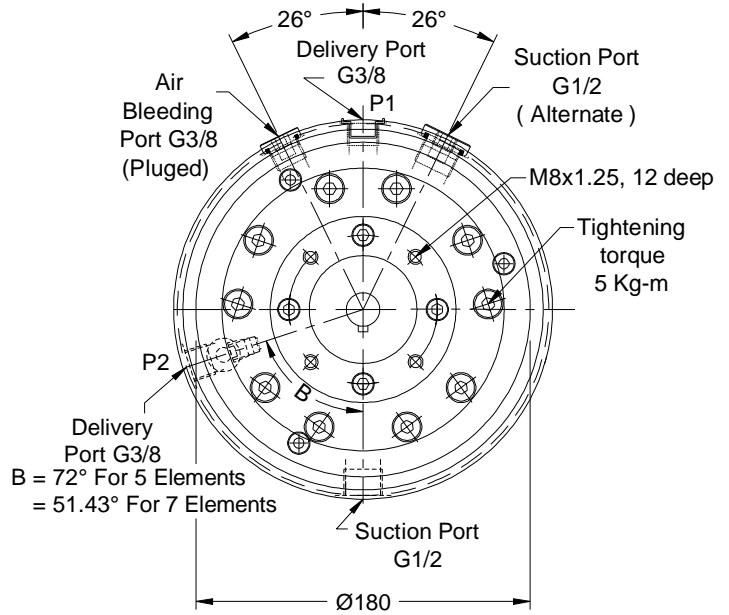
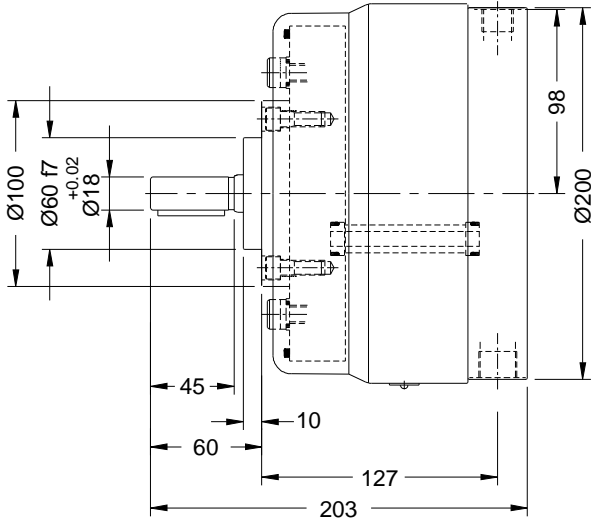
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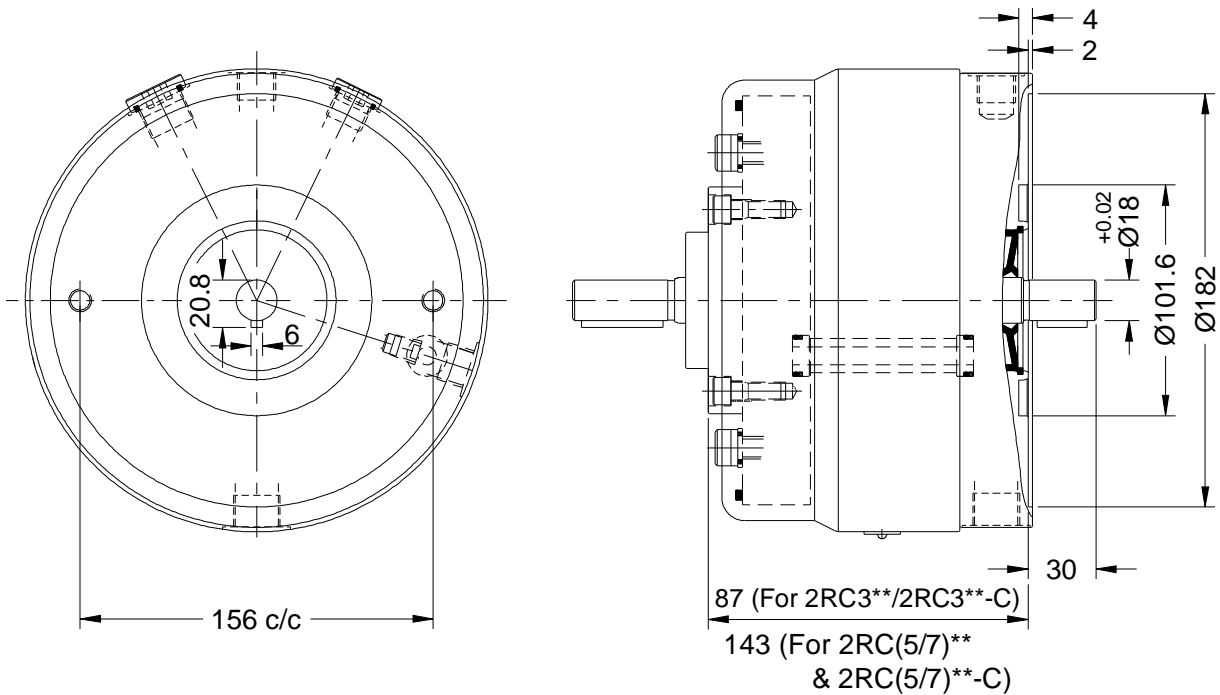
Ref. No. P09046

Model : 2RC(5/7)** and 2RC(5/7)**-C



Accessories

Extension shaft (for through drive)
Dimensions



Note : Torque limitation - The sum of torque used for the piston pump and torque used at extended shaft end should not exceed 75 Nm (11 kw at 1450 rpm)



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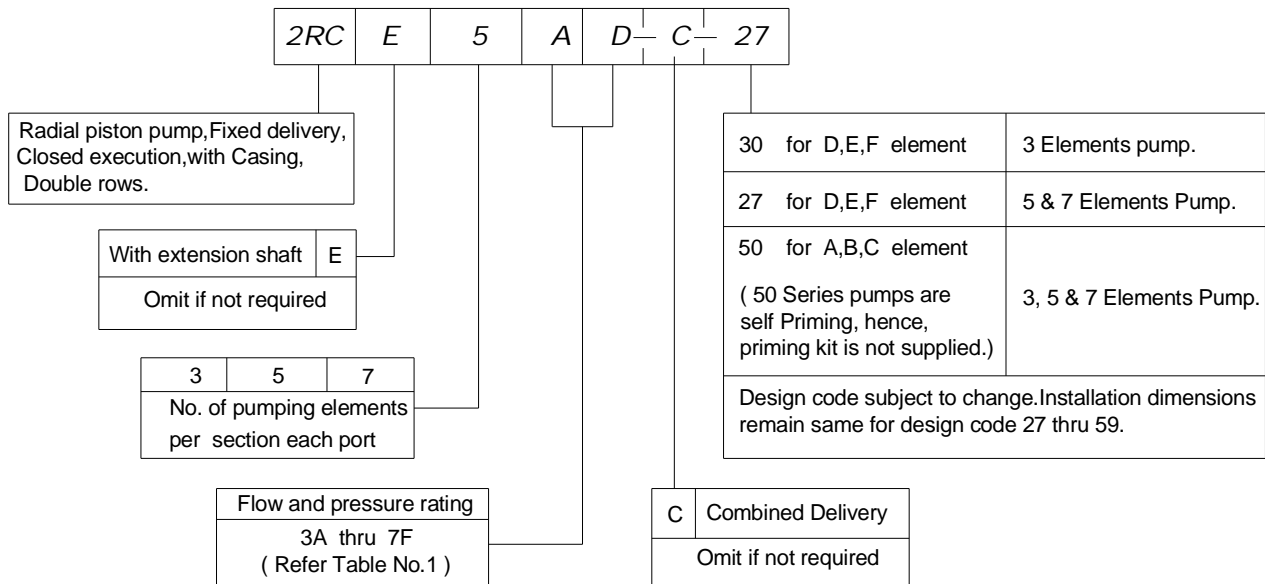
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Ordering code



Note 1 : A double pump of model code 2RC5AD-27, for example, will have 5 pumping elements of 'A' flow and pressure rating at it's P1 port end section and 5 pumping elements of 'D' flow and pressure rating at it's P2 port end section.

Note 2 : An Internally combined single flow pump of model code 2RC5AD-C-27, for example, will have 5 pumping elements of 'A' flow and pressure rating at it's P1 port end section and 5 pumping elements of 'D' flow and pressure rating at it's P2 port end section.

The maximum pressure available will be, minimum of above combination of pumping elements.

Note 3 : For Bell housing assembly Refer Sheet No. [P09035](#).

For Extension bracket assembly Refer Sheet No. [P09090](#).



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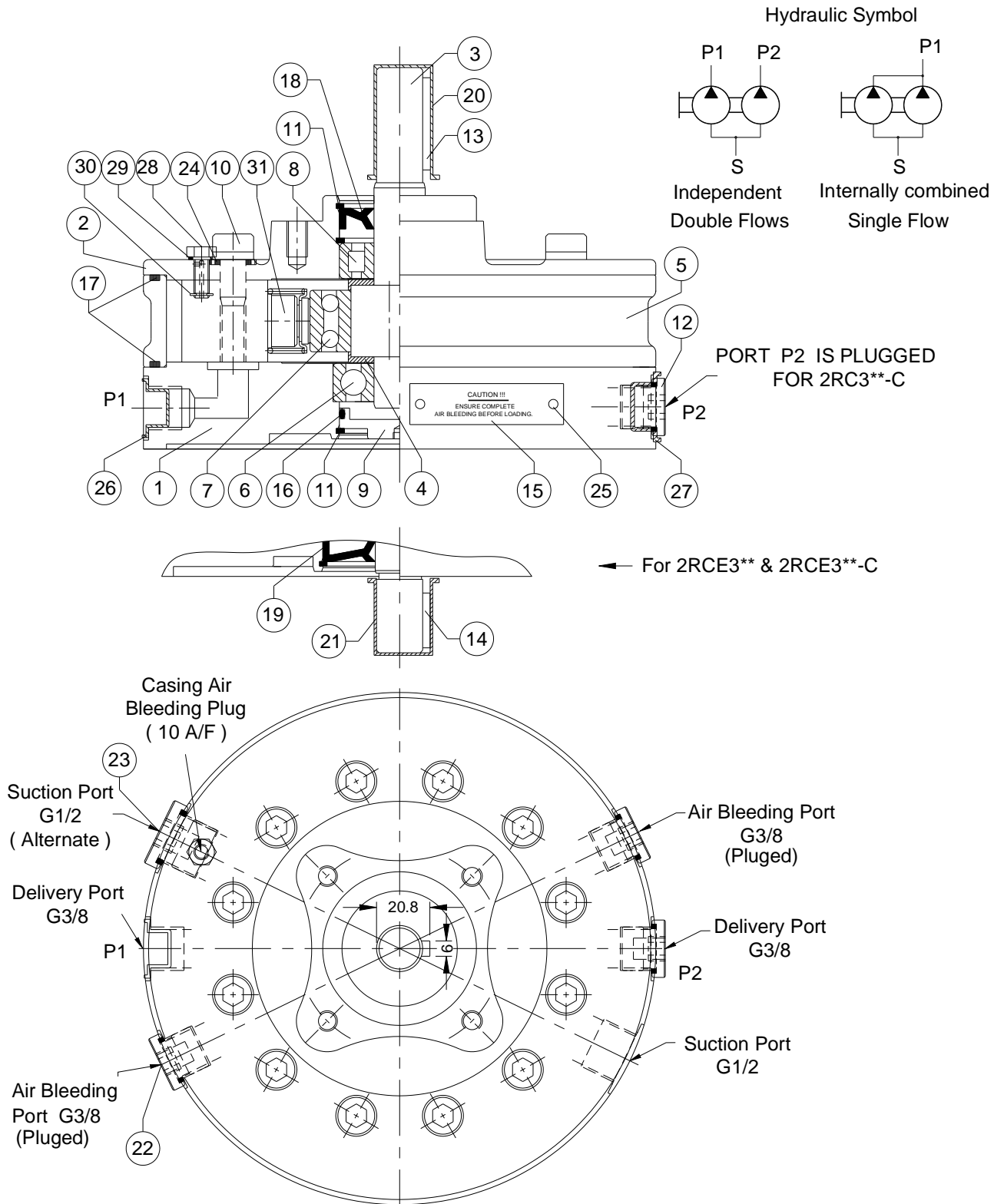
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Sectional view and Part list of 2RC3**-C / 2RCE**-C and 2RC3** / 2RCE3**





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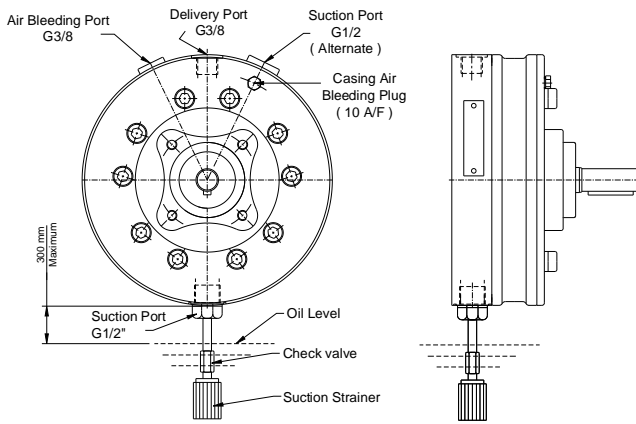
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Priming Procedure for closed Execution Pump

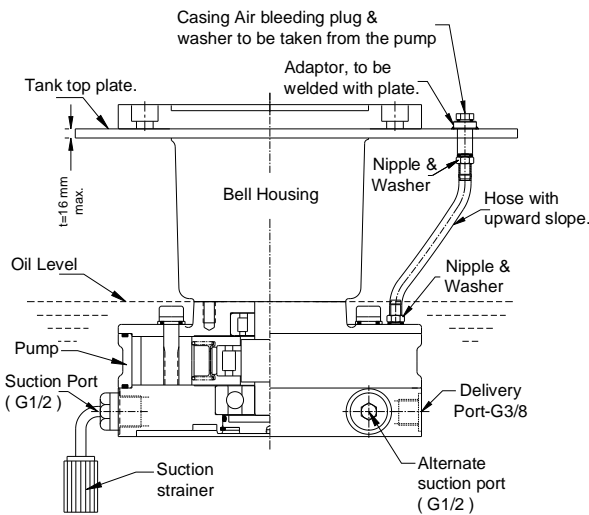


Case I : When the pump suction port height exceeds 300 mm above oil level.

- 1) During assembly / installation provide a check valve with almost nil cracking pressure on the suction pipe. (Refer check valve model codes given below).
- 2) Fill up the casing with oil (Use Alternate Suction port - G1/2" BSP & ensure it to be air tight after filling).
- 3) Connect a Hose pipe of suitable size to the air bleeding port - G 3/8 BSP.
- 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 no load.
- 7) Adjust the system main pressure relief valve to a required value and start using the system.

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

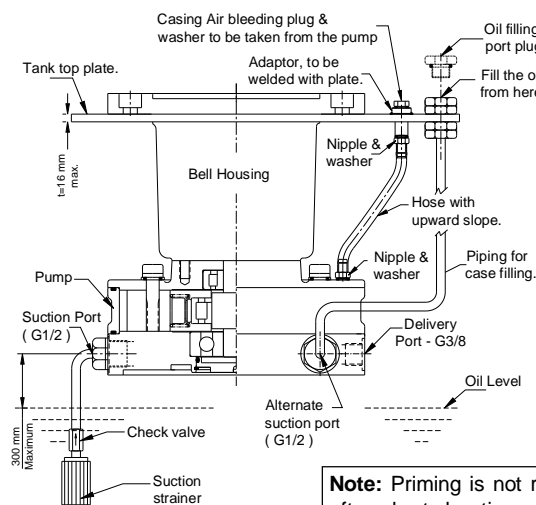
- 1) The pump need not have a check valve as mentioned above.
- 2) During commissioning the Air bleeding port should be kept open to tank by connecting a hose pipe.
- 3) Now, repeat the steps 4 to 7 of case -I.



Case I: When the casing 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 retighten.
- 5) Now run the pump for short period at no load.
- 6) Adjust the main pressure relief valve of the system at required value and start using the system.

This procedure is required for Element D,E,F only. 50 series Pumps with element A,B,C are Self priming, hence,it is not supplied.



Case II: When the oil level is below the suction port (i.e up to a distance of 300mm. Maximum).

- 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 nil cracking pressure at the bottom of the suction pipe. (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 no load for some time.
- 7) Adjust the main pressure relief valve of the system at 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) 1R-series :— 16 O.D.x 2 mm thick (Preferably straight) for Single row pump.
- 2) 2R-series :— 25 O.D.x 2 mm thick (Preferably straight) for Double row pump.
- 3) 11R-series :— 25 O.D.x 2 mm thick (Preferably straight) for Single row pump.
- 4) 12R-series :— 30 O.D.x 2 mm thick (Preferably straight) for Double row pump.

Check valve model codes (To be ordered separately)

- 1) 1R-series :— C10T0-03
- 2) 2R-series :— C15T0-04
- 3) 11R-series :— C20T0-03
- 4) 12R-series :— C20T0-03



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Sectional view and Part list of 2RC3**-C / 2RCE**-C and 2RC3** / 2RCE3**

Sl.No.	Description	2RC3**		2RCE3**		Size	Qty.
		2RC3**-C		2RCE3**-C			
1	Valve plate	11207					1
2	Cover plate	11222					1
3	Shaft	11242		11243			1
4	Balancing Plate	11251					2
5	Casing Ring	11232					1
6	Bottom Bearing	11261				6304	1
7	Centre Bearing.	11262				NUP 3206	1
8	Top Bearing.	11266				NJ 304ECP	1
9	End cap	11255		---		Ø47	1
10	Cap screw	11271				M10 x 55L	12
11	Circlip	11285				Ø47 (Type B)	3
12	Elastomeric Plug	112203				G 3/8	1
13	Shaft Key	11293				6 x 6 x 36	1
14	Shaft Key	---		11294		6 x 6 x 22	1
15	Label (Caution)	11282					1
16	O' Ring	11287		---		42 x 2.65	1
17	O' Ring	11290				189x3	2
*18	Rotary Shaft Seal	11278				Dou. Lip 47	1
*19	Rotary Shaft Seal	---		11278		Dou. Lip 47	1
20	Plastic cap	11283				1R	1
21	Plastic cap	---		11284		1RE (Shaft)	1
22	Elastomeric Plug	00203				G 3/8	2
23	Elastomeric Plug	00204				G 1/2	2
24	Bonded Seal	00160				G 1/8	6
25	Rivet	00001				Ø2, 4.5 L	2
26	Rubber Port Plug	00012				G 3/8 Plug Cap	2/1
27	Rubber Port Plug	00013				G 1/2 Plug Cap	1
28	Hex Plug	11299				M6x16	1
29	Copper washer	11297				Ø6.5xØ9.5x1	1
30	External Circlip	00065				Dia. 4 Nom.	1
Sl.No.	Description	Product				Qty.	
31	Pump element assly. (Refer Data Sheet No. A11100)	1R-A-01 / 1R-B-01 / 1R-C-01 1R-D-01 / 1R-E-01 / 1R-F-01				6	



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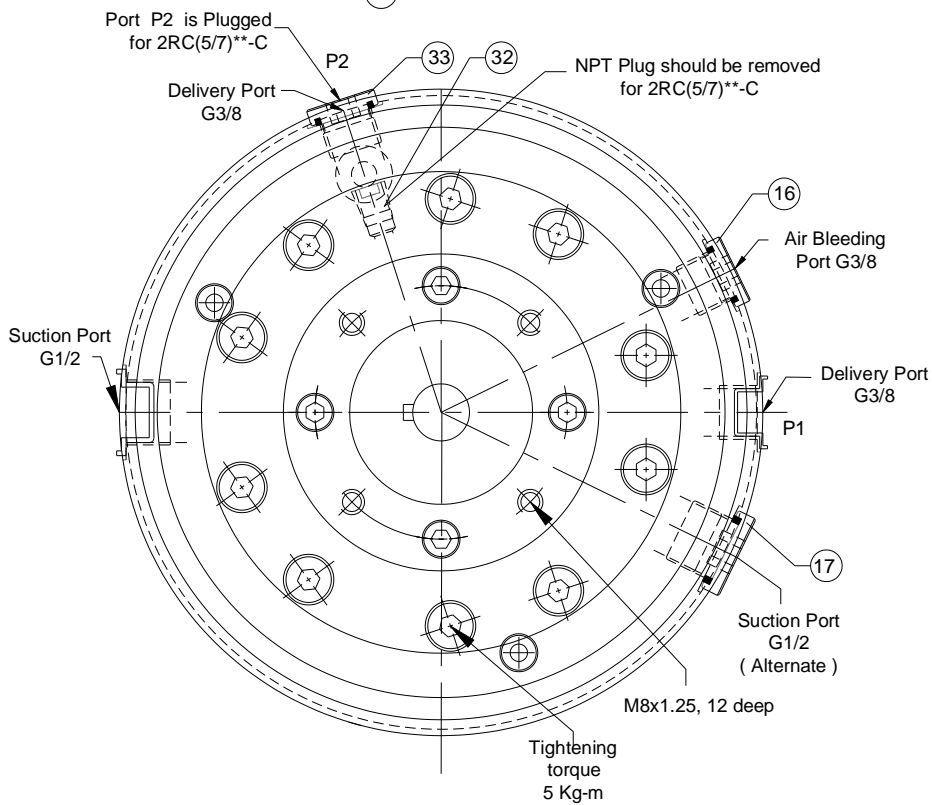
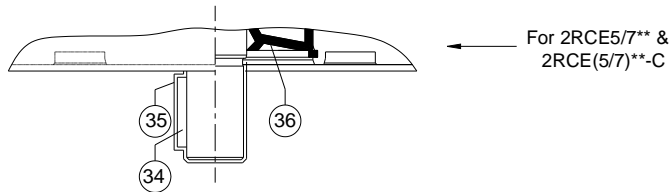
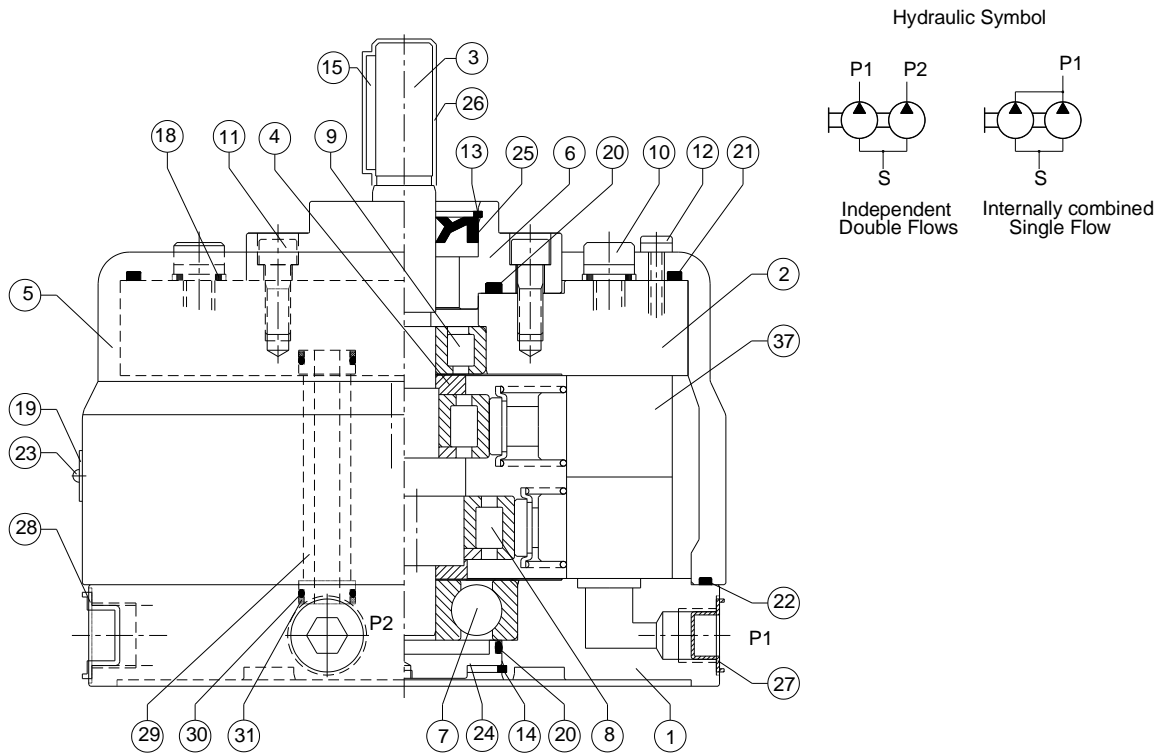
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Sectional view and Part list of 2RC(5/7)**-C / 2RCE(5/7)**-C and 2RC(5/7)** / 2RCE(5/7)**





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SERVICE

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Sectional view and Part list of 2RC(5/7)**-C / 2RCE(5/7)**-C and 2RC(5/7)** / 2RCE(5/7)**

Sl.No.	Description	2RC(5/7)**		2RC(5/7)**-C		2RCE(5/7)**		2RCE(5/7)**-C		Drg. No./Size	Qty.
		Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.		
1	Valve plate	11209 / 11212		11209 / 11212							1
2	Valve plate	11210 / 11213		11210 / 11213							1
3	Shaft	11244		11245							1
4	Balancing Plate			11253							2
5	Casing Ring			11233							1
6	Mounting Flange			11236							1
7	Bottom Bearing			11264				6404			1
8	Centre Bearing.			11265				NUP 2206			2
9	Top Bearing.			11266				NJ 304 ECP			1
10	Cap screw			11272				M10 x 110 L			10/14
11	Cap screw			00116				M8 x 20 L			4
12	Cap screw			00102				M5 x 16 L			3
13	Circlip			11285				Ø47(Type B)			1
14	Circlip			11286				Ø62(Type B)			1
15	Shaft Key			11293				6 x 6 x 36			1
16	Elastomeric Plug			00203				G 3/8			1
17	Elastomeric Plug			00204				G 1/2			1
18	Bounded Seal			00160				1/8" BSP			10/14
19	Label (Caution)			11282							1
20	O Ring			11288				54 x 4			2
21	O Ring			11289				167 x 3.5			1
22	O Ring			11290				189 x 3			1
23	Rivet Type "U"(RHH)			00001				Ø2, 4.5 L			2
24	End Cap	11256		--				Ø62			1
* 25	Rotary Shaft Seal			11278				Dou. Lip 47			1
26	Plastic cap			11283				1R (Shaft)			1
27	Rubber Port Plug			00012				G 3/8 Plug Cap		2	1
28	Rubber Port Plug			00013				G 1/2 Plug Cap			1
29	Connecting pipe			11259							1
30	O Ring			11295				14 x 2 (Viton)			2
31	Backup Ring			11296				14.6 x 18 x 1.2			2
32	Grub Screw	00150	--	00150	--			1/8" NPT			1
33	Elastomeric Plug	--	00204	--	00204			G 3/8			1
34	Shaft Key	--		11294				6 x 6 x 22			1
35	Plastic Cap	--		11284				1RE (Shaft)			1
* 36	Rotery Shaft Seal	--		11277				Dou. Lip 62			1
Sl.No.	Description	Product				Qty.					
37	Pump element assly. (Refer Data Sheet No. A 11100)	1R-A-01 / 1R-B-01 / 1R-C-01 1R-D-01 / 1R-E-01 / 1R-F-01				10 / 14					

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Subject to revision.