Ref. No. P09046 Release 07/2004



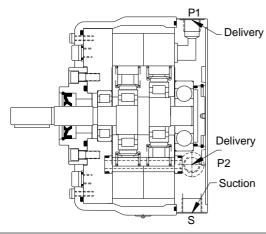
Description

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.

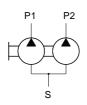
Flows can be combined internally, externally to feed one circuit or used independently to feed Two circuits.



Section



Hydraulic Symbol



Independent Double Flows

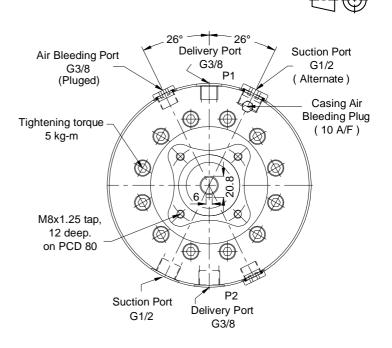


Internally combined Single Flow

Dimensions in mm.

Unit dimension

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



Polyhydron Pvt. Ltd.

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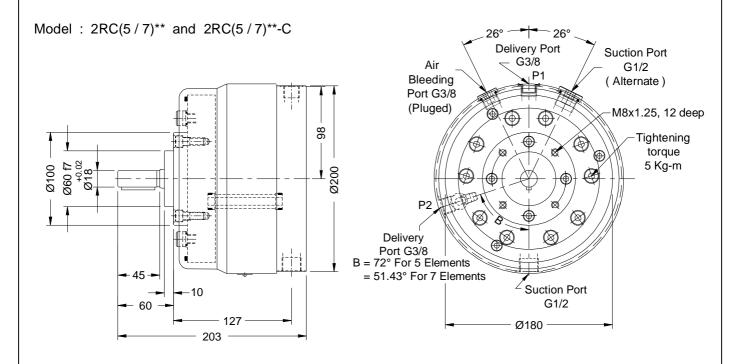
 Website
 : www.polyhydron.com



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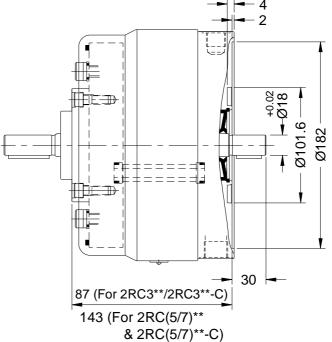


Accessories

Extension shaft (for through drive) Dimensions

6

156 c/c



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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Technical specification

Designation 2RC basic radial piston pump group

Design Radial piston, valve controlled

Mounting Face mounting

Direction of rotation2RC.. Can be run in either direction

2RCE.. Depends upon the direction of rotation of pump attached.

ConnectionSuction G 1/2 female. Suction head — The oil level can be

max. 300 mm below the suction port of the pump.

Suction pipe size — 25 o. d. x 2 th. (as far as possible use straight pipe)

Delivery G 3/8 female.

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 No. 1

Mass 21.4 kg.

Table No. 1

Code	Geometrical	Rated output	Operating							lr	nput p	powe	r req	uiren	nent	(@ 1	450 ı	rpm)							
No.	displacement	at 1450 rpm.	pressure	50	bar	100	bar	150	bar	200	bar	250	bar	300	bar	350	bar	400	bar	450	bar	500	bar	550	bar
	CC / REV	(I / min)	bar	KW	Нр	KW	Нр	KW	Нр	KW	Нр	KW	Нр	KW	Нр	KW	Hр	KW	Нр	KW	Нр	KW	Нр	KW	Нр
3A	1.21	1.5	550	0.17	0.23	0.3	0.5	0.5	0.7	0.7	0.9	0.9	1.2	1	1.4	1.2	1.6	1.4	1.8	1.6	2.1	1.7	2.3	1.9	2.5
5A	2.01	2.6	550	0.29	0.38	0.6	8.0	0.9	1.2	1.2	1.5	1.4	1.9	1.7	2.3	2	2.7	2.3	3.1	2.6	3.5	2.9	3.8	3.2	4.2
7A	2.81	3.7	550	0.4	0.54	0.8	1.1	1.2	1.6	1.6	2.2	2	2.7	2.4	3.2	2.8	3.8	3.2	4.3	3.6	4.8	4	5.4	4.4	5.9
3B	1.88	2.5	450	0.27	0.36	0.5	0.7	0.8	1.1	1.1	1.4	1.3	1.8	1.6	2.2	1.9	2.5	2.1	2.9	2.4	3.2				
5B	3.14	4.2	450	0.45	0.6	0.9	1.2	1.3	1.8	1.8	2.4	2.2	3	2.7	3.6	3.1	4.2	3.6	4.8	4	5.4				
7B	4.4	5.8	450	0.63	0.84	1.3	1.7	1.9	2.5	2.5	3.4	3.1	4.2	3.8	5	4.4	5.9	5	6.7	5.6	7.5				
3C	2.71	3.7	350	0.39	0.52	0.8	1	1.2	1.6	1.5	2.1	1.9	2.6	2.3	3.1	2.7	3.6								
5C	4.52	6.2	350	0.64	0.86	1.3	1.7	1.9	2.6	2.6	3.5	3.2	4.3	3.9	5.2	4.5	6								
7C	6.33	8.6	350	0.9	1.21	1.8	2.4	2.7	3.6	3.6	4.8	4.5	6	5.4	7.2	6.3	8.5								
3D	3.19	4.3	300	0.45	0.61	0.9	1.2	1.4	1.8	1.8	2.4	2.3	3	2.7	3.6										
5D	5.31	7.2	300	0.76	1.01	1.5	2	2.3	3	3	4.1	3.8	5.1	4.5	6.1										
7D	7.43	10	300	1.06	1.42	2.1	2.8	3.2	4.3	4.2	5.7	5.3	7.1	6.3	8.5										
3E	3.69	5	250	0.53	0.7	1	1.4	1.6	2.1	2.1	2.8	2.6	3.5												
5E	6.16	8.4	250	0.88	1.17	1.8	2.4	2.6	3.5	3.5	4.7	4.4	5.9												
7E	8.62	11.7	250	1.23	1.64	2.5	3.3	3.7	4.9	4.9	6.6	6.1	8.2												
3F	4.24	5.8	200	0.6	0.81	1.2	1.6	1.8	2.4	2.4	3.2														
5F	7.07	9.7	200	1	1.35	2	2.7	3	4	4	5.4														
7F	9.9	13.6	200	1.11	1.89	2.8	3.8	4.2	5.7	5.6	7.5														

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. 5AD for example, indicates a double pump having a flow and pressure rating of 5A for P1 port end section and 5D rating for P2 port end section.

Torque Limitation: The sum of torque used for P1 and P2 port end section should not exceed 75 Nm (11 kw at 1450 rpm) at any given instance.

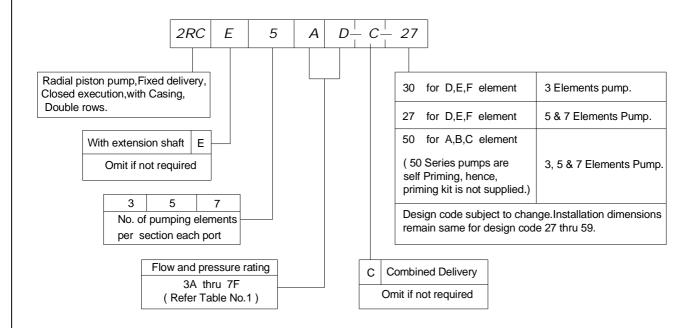


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Ordering code



- **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. <u>P09035</u>.

For Extension bracket assembly Refer Sheet No. P09090.

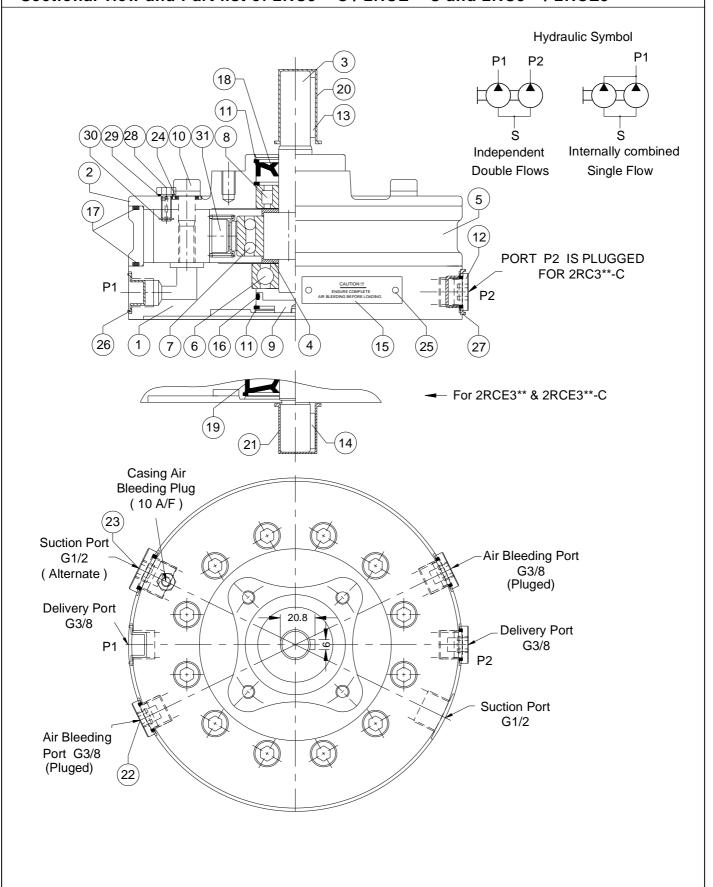


SERVICE

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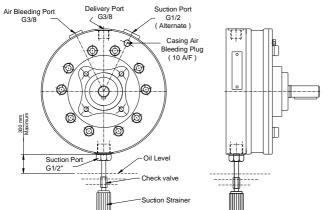
Sectional view and Part list of 2RC3**-C / 2RCE**-C and 2RC3** / 2RCE3**





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Priming Procedure for closed Execution Pump

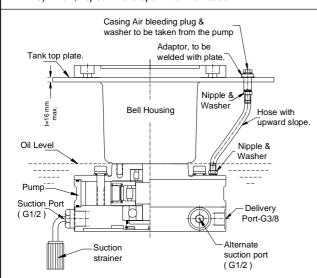


Case I : When the pump suction port height exceeds 300 mm above oil level.

- 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 / uninterupted 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.

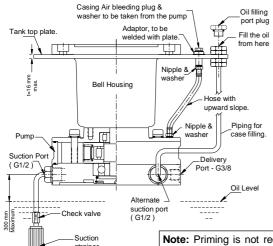
- 1) The pump need not have a check valve as mentioned above.
- 2) During commissioning the Air bleeding port should be kept open to tank by connecting a hose pipe.
- 3) Now, repeat the steps 4 to 7 of case -I.



Case I: When the casing pump is immersed in oil.

- 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.
- 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).

- Make the connection for air bleeding as shown in fig. using the kit provided with the pump.
- Fit a check valve with almost nil cracking pressure at the bottom of the suction pipe. (Refer check valve model codes given below).
- 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.
- 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**

		2RC	3**	2RCE3**		
		2RC3	3**-C	2RCE3**-C		
SI.No.	Description	Part No.			Size	Qty.
1	1 Valve plate		112	207		1
2	Cover plate		112	222		1
3	Shaft	112	242	11243		1
4	Balancing Plate		112	251		2
5	Casing Ring		112	232		1
6	Bottom Bearing		112	261	6304	1
7	Centre Bearing.		112	262	NUP 3206	1
8	Top Bearing.		112	266	NJ 304ECP	1
9	End cap	112	255		Ø47	1
10	Cap screw		112	271	M10 x 55L	12
11	Circlip		112	285	Ø47 (Type B)	3
12	Elastomeric Plug		112	2203	G 3/8	1
13	Shaft Key		112	293	6 x 6 x 36	1
14	Shaft Key		_	11294	6 x 6 x 22	1
15	Label (Caution)	11282		282		1
16	O' Ring	112	287		42 x 2.65	1
17	O' Ring		112	290	189x3	2
*18	Rotary Shaft Seal		112	278	Dou. Lip 47	1
*19	Rotary Shaft Seal			11278	Dou. Lip 47	1
20	Plastic cap		1128	33	1R	1
21	Plastic cap		-	11284	1RE (Shaft)	1
22	Elastomeric Plug		002	203	G 3/8	2
23	Elastomeric Plug		002	204	G 1/2	2
24	Bonded Seal		00	160	G 1/8	6
25	Rivet		000	001	Ø2, 4.5 L	2
26	Rubber Port Plug		000	012	G 3/8 Plug Cap	$\frac{2}{1}$
27	Rubber Port Plug	00013			G 1/2 Plug Cap	1
28	Hex Plug	11299		299	M6x16	1
29	Copper washer	11297		297	Ø6.5xØ9.5x1	1
30	External Circlip	00065			Dia. 4 Nom.	1
SI.No. Description		Produ			ıct	Qty.
31	ssly. 1R-A-01 / 1R-B-01 / 1R-C-01 eet 1R-D-01 / 1R-E-01 / 1R-F-01					

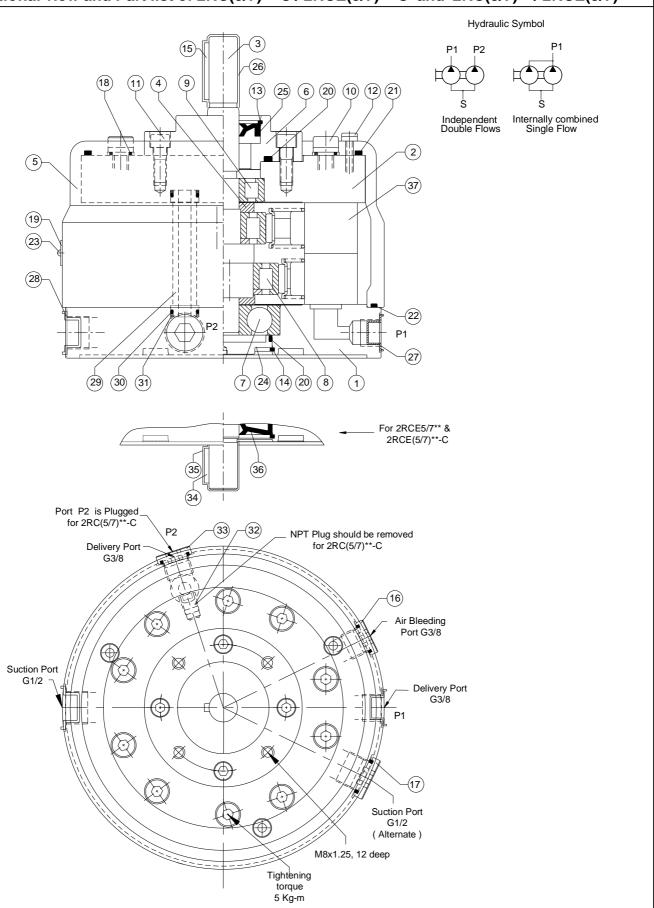


SERVICE

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Ref. No. P09046

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





SERVICE

9

Ref. No. P09046

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

		2RC(5/7)**	2RC(5	5/7)**-C	2RCE(5/7)**	2RCE(5/7)**	-C			
SI.No.	Description	Pa	rt No.		Par	t No.	Drg. No./S	Size	Qty.	
1	Valve plate	11209	/ 11212	2	11209	/ 11212			1	
2	Valve plate	11210	/ 11213	3	11210	/ 11213			1	
3	Shaft	11:	244		11:	245			1	
4	Balancing Plate				2					
5	Casing Ring					1				
6	Mounting Flange									
7	Bottom Bearing			6404	6404					
8	Centre Bearing.			NUP 2206	NUP 2206					
9	Top Bearing.			112	266		NJ 304 EC	NJ 304 ECP		
10	Cap screw			M10 x 110	M10 x 110 L					
11	Cap screw			00	116		M8 x 20 L	M8 x 20 L		
12	Cap screw			00	102		M5 x 16 L	M5 x 16 L		
13	Circlip			112	285		Ø47(Type	Ø47(Type B)		
14	Circlip			112	286		Ø62(Type	Ø62(Type B)		
15	Shaft Key		11:	293		6 x 6 x 36	6 x 6 x 36			
16	Elastomeric Plug			G 3/8	G 3/8					
17	Elastomeric Plug				204	G 1/2	G 1/2			
18	Bounded Seal					00160				
19	Label (Causion)			112	282				1	
20	O Ring		11:	288	54 x 4	54 x 4				
21	O Ring			167 x 3.5		1				
22	O Ring			189 x 3	189 x 3					
23	Rivet Type "U"(RHH)		Ø2, 4.5 L		2					
24	End Cap	112	56		=	= =	Ø62	Ø62		
* 25	Rotary Shaft Seal		Dou. Lip 4	Dou. Lip 47						
26	Plastic cap		1R (Shaft	1R (Shaft)						
27	Rubber Port Plug			G 3/8 Plug	G 3/8 Plug Cap					
28	Rubber Port Plug			G 1/2 Plug	G 1/2 Plug Cap					
29	Connecting pipe					1				
30	O Ring		14 x 2 (Vi	14 x 2 (Viton)						
31	Backup Ring			11296			14.6 x 18 x 1.2		2	
32	Grub Screw	00150		- 00150			1/8" NPT	1/8" NPT		
33	Elastomeric Plug		0020	04 ——		00204	G 3/8	G 3/8		
34	Shaft Key	_	<u>11294</u>				6 x 6 x 22	1		
35	Plastic Cap ——				11	1RE (Sha	1RE (Shaft)			
* 36	Rotery Shaft Seal				11	Dou. Lip 6	2	1		
SI.No.	Descript	ion			F		C	Qty.		
37	Pump alament assly				Product 1R-A-01 / 1R-B-01 / 1R-C-01 1R-D-01 / 1R-E-01 / 1R-F-01					

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