

Contact Details

Before using the product, please check the guide pages at the front of this catalog.

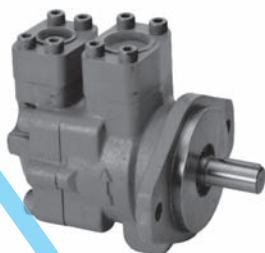
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From March 2012, these products have shifted to the DEV series although they are still available for service purposes. Therefore, use the DEV series instead.

High-pressure Single Stage Vane Pump



Features

● Low noise

The noise level for DP12 to DP15 pumps is 70 dB-A at a rotational speed of 1200 min⁻¹ and pressure of 14 MPa {140 kgf/cm²}.

● High reliability

The electronic expansion valve that has been adopted to reduce wear of the vane and cam ring reduces wear during operation in the high pressure range.

Nomenclature

※ - DP ※ ※ ※ - ※ ※ - ※

1 2 3 4 5 6

1 Applicable fluid code

No designation: Petroleum-based hydraulic fluid,
water-glycol hydraulic fluid, water/oil
emulsion type hydraulic fluid
F: Phosphate ester hydraulic fluid

2 Model No.

DP: High-pressure single stage vane pump

3 Pump capacity code

1: DP10
2: DP200
3: DP300

4 Discharge rate (See the specification table)

5 Design No.

(The design No. is subject to change)

20: DP200, DP300

30: DP10

6 Direction of rotation, when viewed from the shaft end

No designation: Clockwise (rightward)

L: Counterclockwise (leftward)

* Internal parts differ between the clockwise and counterclockwise specifications.
The direction of rotation (rightward or leftward) cannot be changed.

Note: Flanges for the connection to suction and to discharge, and O-rings and bolts are attached to pumps.

Specifications

Model No.	[Conditions] Input rotational speed: 1800 min ⁻¹ , Fluid used: equivalent to ISO VG56, Fluid temperature: 40°C											
	Discharge rate L/min						Shaft input kW					
	0.7 MPa {7 kgf/cm ² }	3.5 MPa {35 kgf/cm ² }	7 MPa {70 kgf/cm ² }	10.5 MPa {105 kgf/cm ² }	14 MPa {140 kgf/cm ² }	17.5 MPa {175 kgf/cm ² }	0.7 MPa {7 kgf/cm ² }	3.5 MPa {35 kgf/cm ² }	7 MPa {70 kgf/cm ² }	10.5 MPa {105 kgf/cm ² }	14 MPa {140 kgf/cm ² }	17.5 MPa {175 kgf/cm ² }
DP 12	23.0	22.5	22.0	21.0	20.0	18.0	0.7	1.8	3.5	5.2	6.8	8.3
DP 13	33.5	33.0	32.0	31.0	29.5	28.5	0.9	2.7	5.0	7.3	9.4	11.6
DP 14	44.0	43.5	42.5	41.0	39.5	37.0	1.3	3.5	6.5	9.3	12.0	14.8
DP 15	55.0	54.5	53.5	52.0	51.0	48.0	1.5	4.6	8.1	11.8	15.3	18.8
DP 206	67.0	65.0	63.0	61.0	59.0	56.0	2.3	5.5	9.9	14.4	18.6	23.1
DP 208	82.0	80.0	78.0	75.5	73.0	70.0	2.7	7.0	12.2	17.5	22.9	28.1
DP 210	104.0	102.0	99.0	96.0	93.0	89.0	3.2	9.0	15.5	22.3	29.0	35.8
DP 212	120.0	118.0	115.0	112.0	108.0	104.0	3.4	10.5	18.3	25.7	33.4	40.9
DP 314	149.0	144.0	140.0	135.5	131.0	125.0	5.4	13.8	23.9	34.1	44.2	54.4
DP 317	180.0	175.5	171.0	165.5	160.0	153.0	6.2	16.8	29.0	40.5	52.0	63.9
DP 320	207.0	202.0	196.5	190.5	184.0	176.0	8.5	19.3	32.8	46.0	59.5	73.0
DP 321	223.0	219.5	214.0	207.0	201.0	191.5	10.0	21.5	35.9	50.0	65.0	80.0

Mass (kg)

Pump model	Flange mount type	Foot support mount type
DP 10	13	18
DP 200	20	25
DP 300	27	34

Foot support model codes

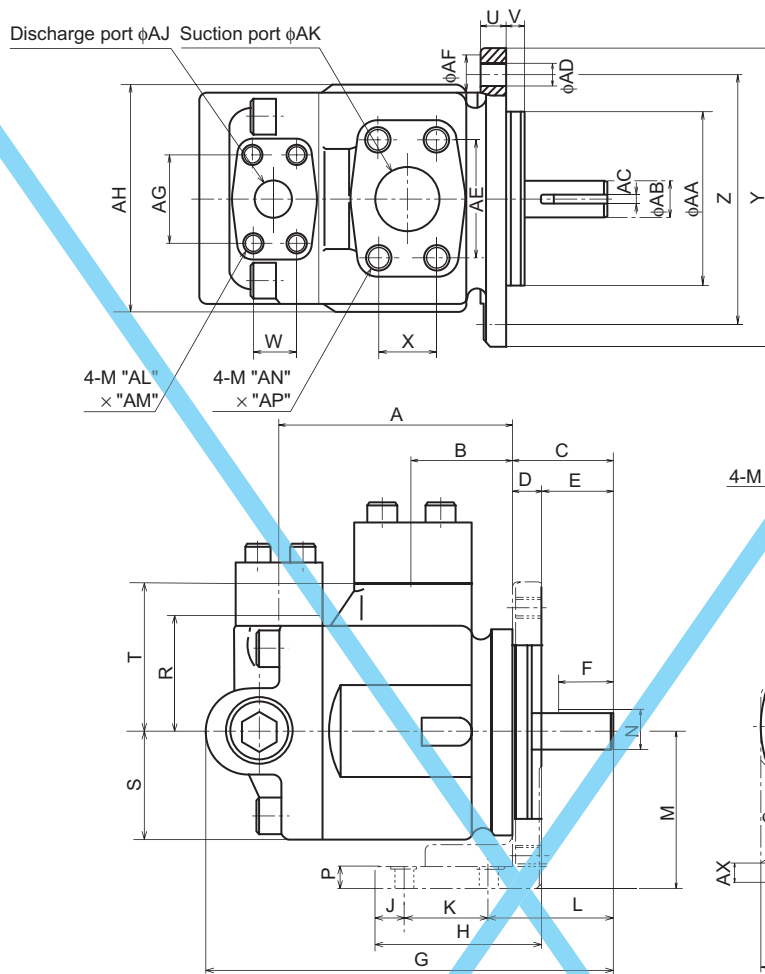
● Foot supports are not provided with the pump. Order them separately as required by specifying the model code given in the table below.

Pump model	Foot support model codes
DP 10	V38M-50
DP 200	
DP 300	VR80M-20

Refer to Page S-2 for the dimensions of the foot supports.

External dimension diagram

DP10, DP200, DP300



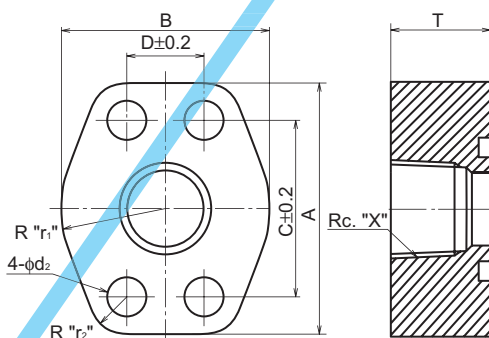
Model code	Dimensions A
DP 10	127
DP200	140
DP300	168

Dimensions				
B	C	D	E	F
58	58.7	20	38.7	32
60	58.7	20	38.7	32
70	73	25	48	38

Model code	Dimensions																		
	G	H	J	K	L	M	N	P	R	S	T	U	V	W	X	Y	Z	AA	AB
DP 10	212.5	110	15	60	73.7	92 ^{+0.03} _{-0.04}	24.5	15	70	60	70	14	10	26.2	30.2	176	146	101.6 ^{+0.03} _{-0.035}	22.22 ⁰ _{-0.021}
DP200	232.5	110	15	60	73.7	92 ^{+0.03} _{-0.04}	27.6	15	68	62	86	14	10	26.2	35.7	176	146	101.6 ^{+0.03} _{-0.035}	25.4 ⁰ _{-0.021}
DP300	288	150	17	93	88	109.5 ⁰ _{-0.2}	41.5	20	85	80	105	17	12	30.2	42.9	213	181	127 ⁰ _{-0.040}	38.1 ⁰ _{-0.025}

Model code	Dimensions																		
	AC	AD	AE	AF	AG	AH	AJ	AK	AL	AM	AN	AP	AR	AS	AT	AU	AV	AW	AX
DP 10	4.76 ^{+0.03} _{-0.04}	14	58.7	22	52.4	120	20	28	10	20	10	20	12	234	210	11	120	19	14
DP200	4.76 ^{+0.03} _{-0.04}	14	70	22	52.4	136	24	40	10	20	12	22	12	234	210	11	120	19	14
DP300	7.96 ⁰ _{-0.022}	18	77.8	26	58.7	160	32	50	12	20	12	17	16	314	280	18	172	28.5	19

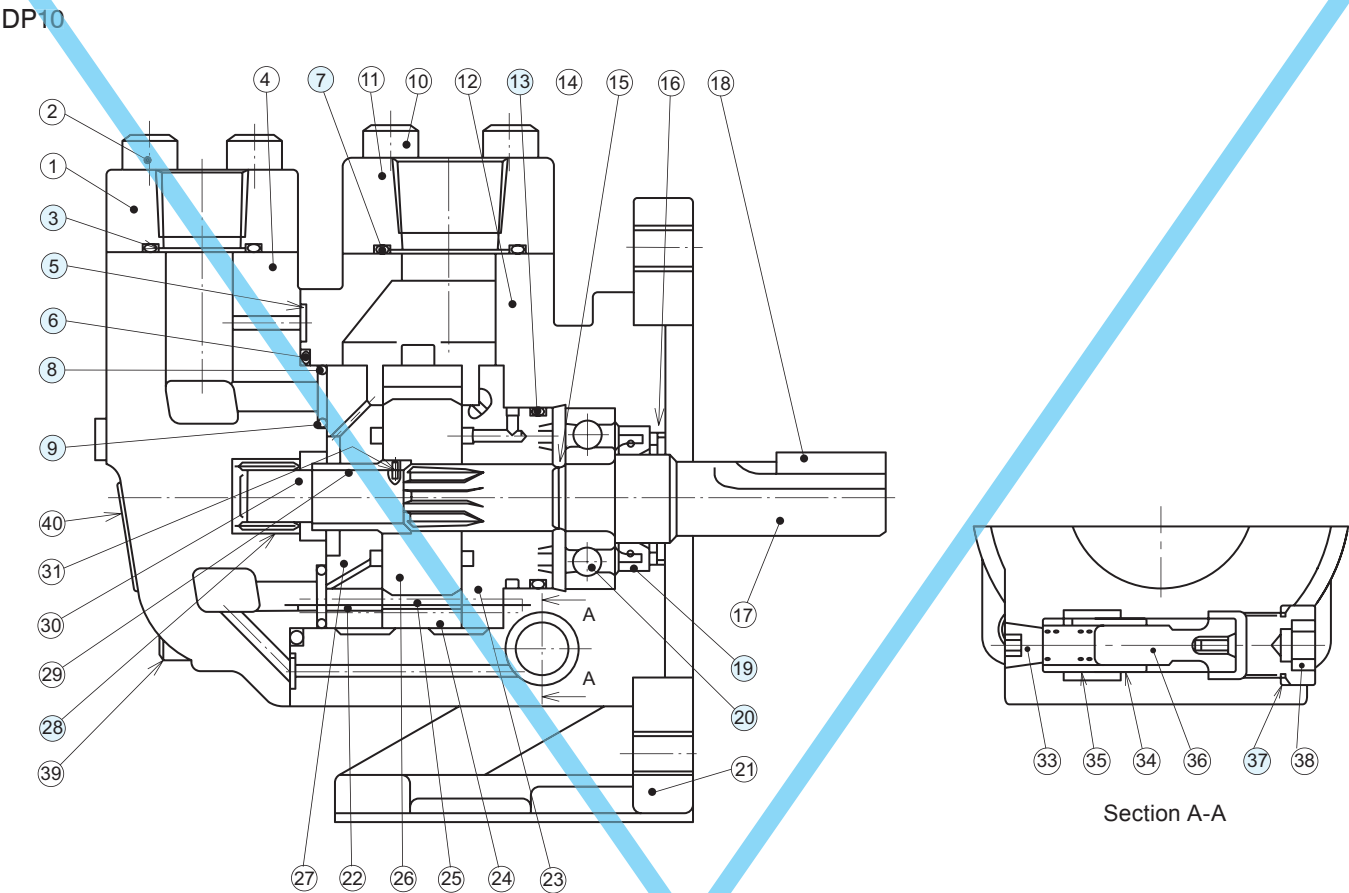
Flange geometry and dimensions



For suctioning	Rc. "X"	Dimensions										Reference	
		A	B	C	D	T	d	d ₁	d ₂	r ₁	r ₂	O-ring	Hexagon socket head cap bolt
DP 10	1¼	80	64	58.7	30.2	30	32	48	11	—	11	G40	M10
DP200	1½	94	72	69.9	35.7	30	38	58	13.5	41.5	12.05	G50	M12
DP300	2	102	85	77.8	42.9	30	51	68	13.5	48.5	12.1	G60	M12

For discharging	Rc. "X"	Dimensions										Reference	
		A	B	C	D	T	d	d ₁	d ₂	r ₁	r ₂	O-ring	Hexagon socket head cap bolt
DP10 DP200	1	70	55	52.4	26.2	28	26	40	11	29.5	8.8	G35	M10
DP300	1¼	80	64	58.7	30.2	30	32	45	13	36.5	10.65	G40	M12

Sectional structural diagram



DP10 Seal/bearing table

Part No.	Name	Specifications	Material	Quantity
3	O-ring	JIS B 2401 1B-G35	NBR	1
5	O-ring	JIS B 2401 1B-P8	NBR	4
6	O-ring	JIS B 2401 1A-G75	NBR	1
7	O-ring	JIS B 2401 1A-G40	NBR	1
8	O-ring	JIS B 2401 1B-G70	NBR	1
9	O-ring	JIS B 2401 1B-G40	NBR	1
13	O-ring	JIS B 2401 1A-G45	NBR	1
19	Oil seal	TCV26428	NBR	1
20	Ball bearing	6304		1
28	Needle bearing	BA108		1
37	O-ring	JIS B 2401 1A-P22	NBR	1

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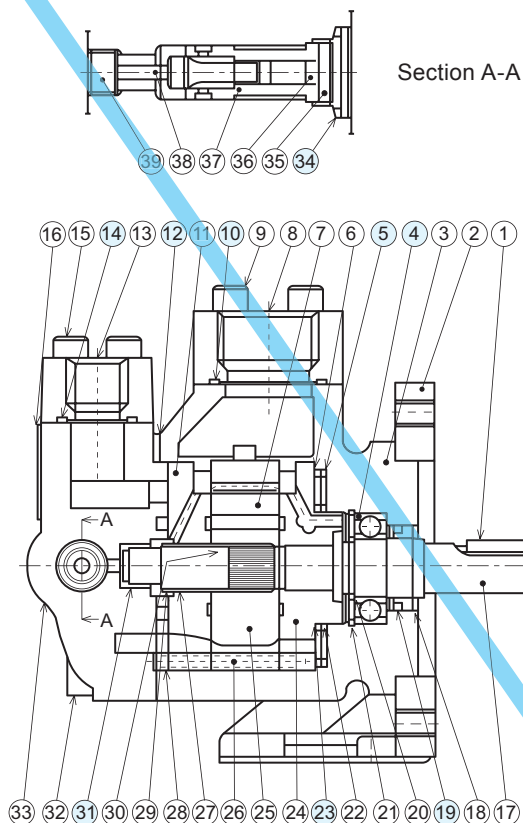
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VANE PUMPS

Sectional structural diagram

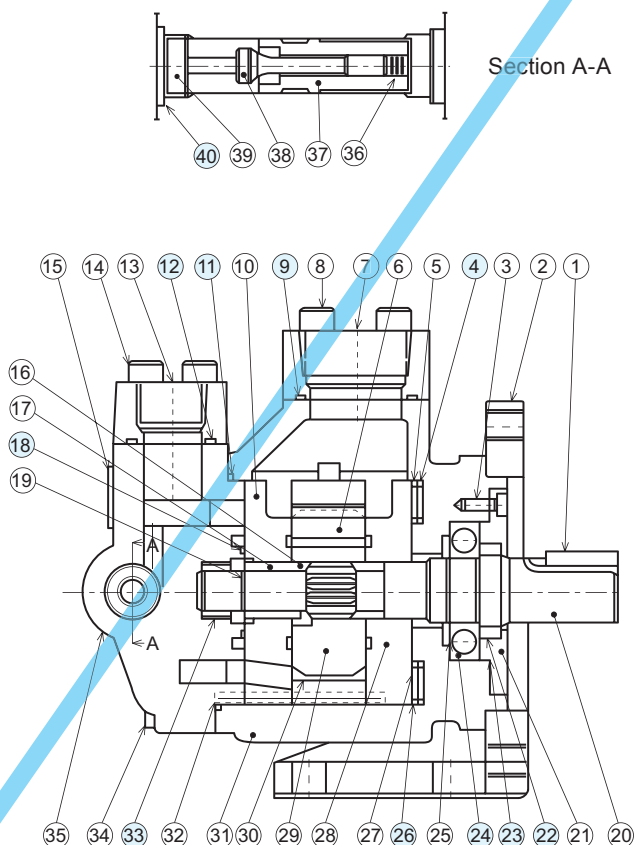
DP200



DP200 Seal/bearing table

Part No.	Name	Specifications	Material	Quantity
4	Ball bearing	6205		1
5	O-ring	JIS B 2401 1B-G90	NBR	1
10	O-ring	JIS B 2401 1A-G50	NBR	1
12	O-ring	JIS B 2401 1B-G105	NBR	1
14	O-ring	JIS B 2401 1B-G35	NBR	1
19	Oil seal	TCV30428	NBR	1
23	O-ring	JIS B 2401 1B-G50	NBR	1
31	Needle bearing	BA108		1
34	O-ring	JIS B 2401 1A-G35	NBR	1

DP300



DP300 Seal/bearing table

Part No.	Name	Specifications	Material	Quantity
4	O-ring	JIS B 2401 1B-G115	NBR	1
9	O-ring	JIS B 2401 1A-G60	NBR	1
11	O-ring	JIS B 2401 1A-G120	NBR	1
12	O-ring	JIS B 2401 1B-G40	NBR	1
18	O-ring	JIS B 2401 1A-G45	NBR	1
22	Oil seal	TCV40528	NBR	1
23	O-ring	JIS B 2401 1A-G70	NBR	1
24	Ball bearing	6207		1
26	O-ring	JIS B 2401 1B-G65	NBR	1
33	Needle bearing	BA1312		1
40	O-ring	JIS B 2401 1A-G35	NBR	2