

VDS, VDR & VDC SERIES VARIABLE VOLUME, PRESSURE COMPENSATED VANE PUMPS.

Features

- 143 to 2000 PSI PRESSURE RANGES
- QUIET and EFFICIENT OPERATION
- 4.0 to 31.7 GPM at 1800 RPM
- FAST RESPONSE, APPROXIMATELY 60ms on stroke, 90ms off stroke
- SUBPLATE and SAE MOUNTING
- TANDAM PUMP ARRANGEMENTS



VDS SERIES



VDR SERIES



VDC SERIES

Index

VDS SERIES, 4.0 GPM @ 1800 RPM/1000 PSI MAX P-4
 VDR SERIES, 7.9 to 10.6 GPM @ 1800 RPM/2000 PSI MAX P-7
 VDC SERIES, 7.9 to 31.7 GPM @ 1800 RPM/2000 PSI MAX P-12

VDS Series

SMALL VARIABLE VOLUME VANE PUMP

Features

1. Precision machining technology provides efficient operation and low dead head power loss.
2. Quiet operation even at high pressure. The use of journal bearings and improved design of the suction and pressure ports significantly reduce noise levels.
3. Simple, compact design.
4. Quick response.
5. Excellent performance and long service life is assured. Strict material selection, improved heat treatment techniques, and high precision machining technology provide for pumps with stable, efficient performance even under severe operating conditions.

Specifications

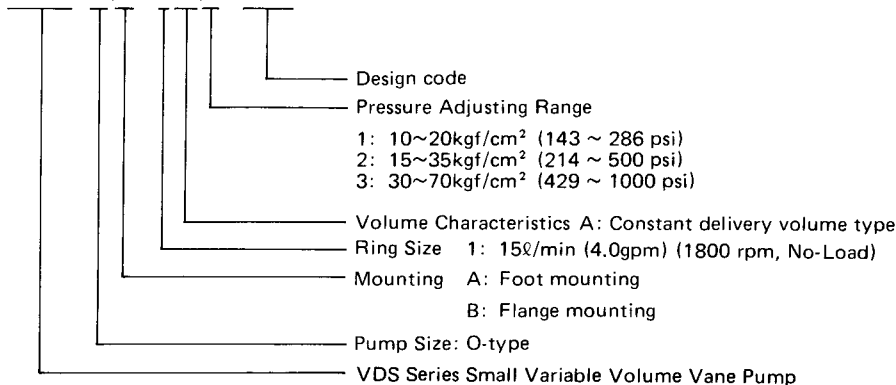
Model		Delivery (ℓ/min (gpm) at No-Load)		Pressure Adjust Range kgf/cm ² (psi)	Drive Speed (rpm)		Max. Setting Pressure kgf/cm ² (psi)	Weight kgf (ℓbs)
Foot Mounting	Flange Mounting	1800rpm	1500rpm		Minimum	Maximum		
VDS-OA-1A1-E11	VDS-OB-1A1-E11	15 (4.0)	12.5 (3.3)	10 ~ 20 (143 ~ 286)	800	1800	20 (286)	A-type 6.5 (14.3)
VDS-OA-1A2-E11	VDS-OB-1A2-E11			15 ~ 35 (214 ~ 500)			35 (500)	
VDS-OA-1A3-E11	VDS-OB-1A3-E11			30 ~ 70 (429 ~ 1000)			70 (1000)	

• Notes

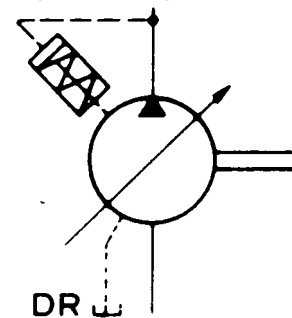
1. The rotation of these pumps is clockwise as viewed from the shaft side.
2. Connect the drain piping directly to the oil tank at a point below the level of the oil inside.
3. Maintain the suction pressure within -0.3kgf/cm² (-4.3psi) at the suction port.
4. The pressure will be increased when the pressure adjusting screw is turned clockwise and will be reduced when the adjusting screw is turned counterclockwise.
5. The flow will be reduced when the flow adjusting screw is turned clockwise and will be increased when the adjusting screw is turned counterclockwise.
6. For proper alignment between the drive motor shaft and the pump shaft, the eccentricity between the drive shaft and pump shaft must be kept within 0.05mm (0.002in) and the eccentric angle error between them must be kept within 1°.
7. Viscosity grade ISO VG32 or equivalent hydraulic oil having a viscosity index of 90 or more is recommended.
8. The hydraulic oil temperature range is 15-60°C.
9. When the pump is to be operated for the first time, place the pump delivery side in No-load condition and repeat starting and stopping of the motor a number of times to extract the air from inside of the pump piping.

Model Code

VDS-0✳-1A✳-E11



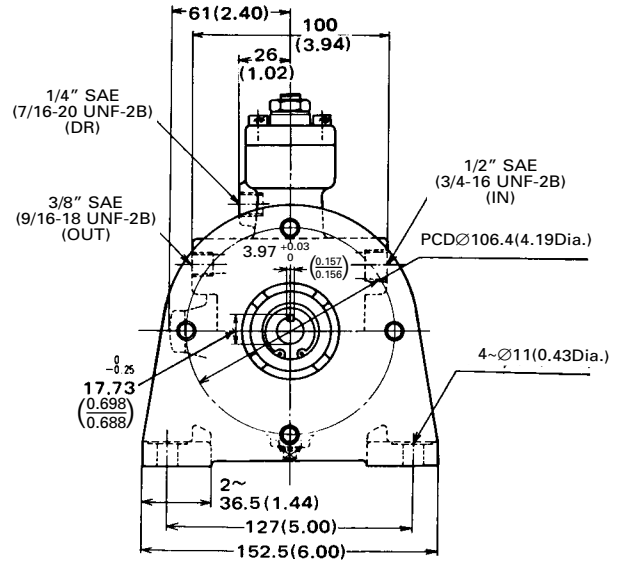
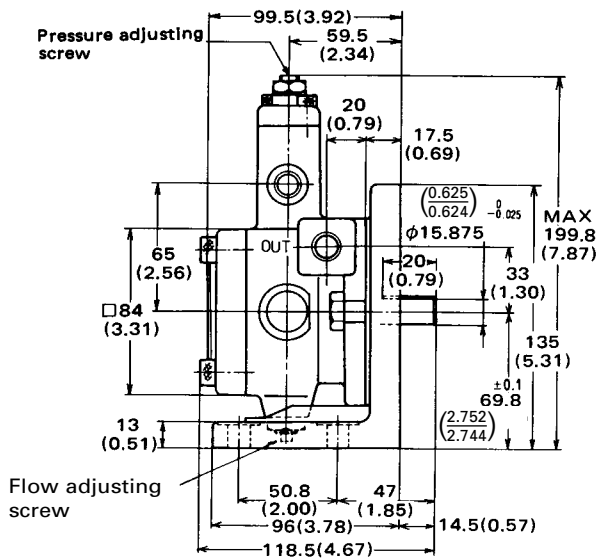
Hydraulic Symbol



VDS Series

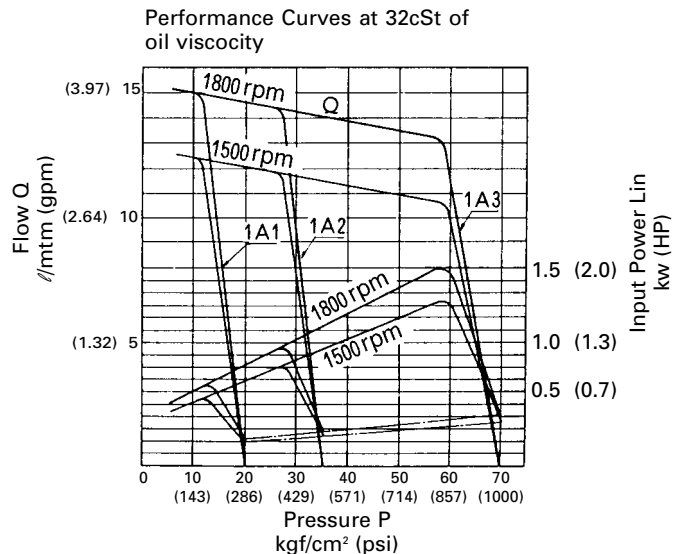
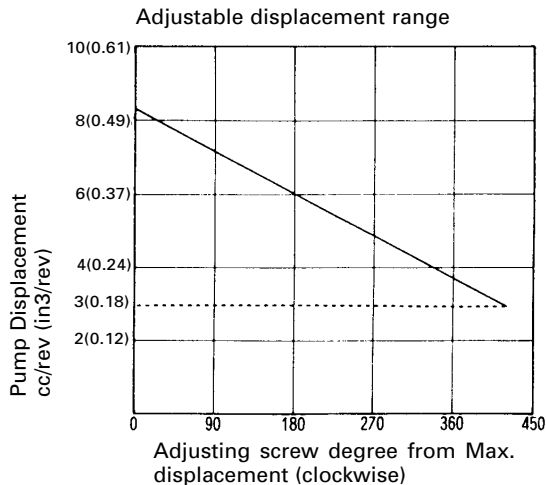
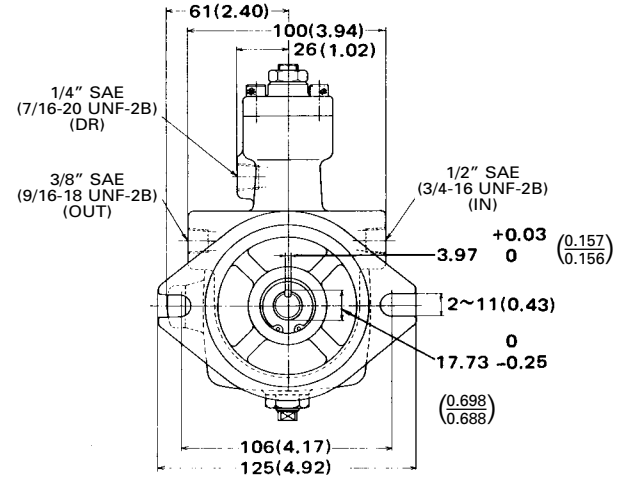
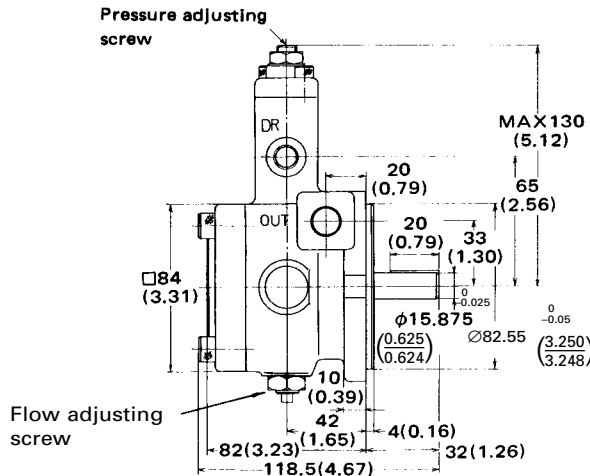
INSTALLATION DIMENSIONS mm (inch)

VDS-0-1A*E11 (Foot Mounting Type)



(Note) Foot mounting kit type: IHM-2-10

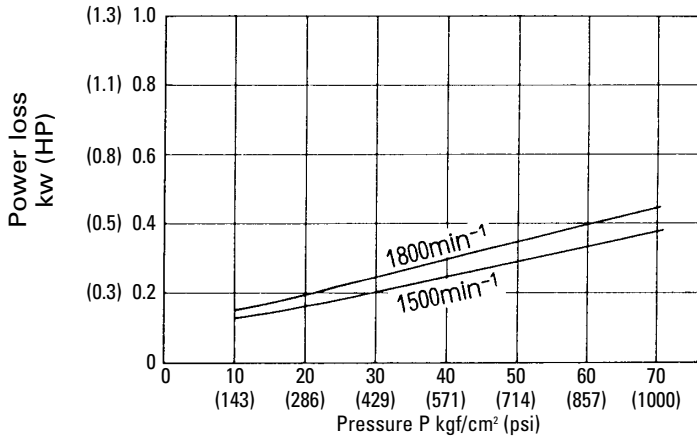
VDS-0-1A*E11 (Flange Mounting Type)



VDS Series

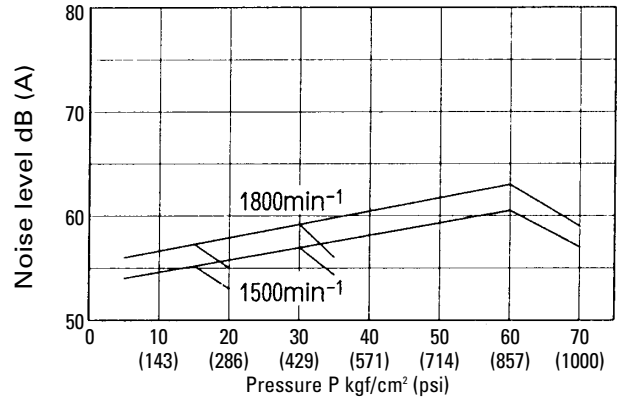
SMALL VARIABLE VOLUME VANE PUMP

Power loss curves at Full-cut off



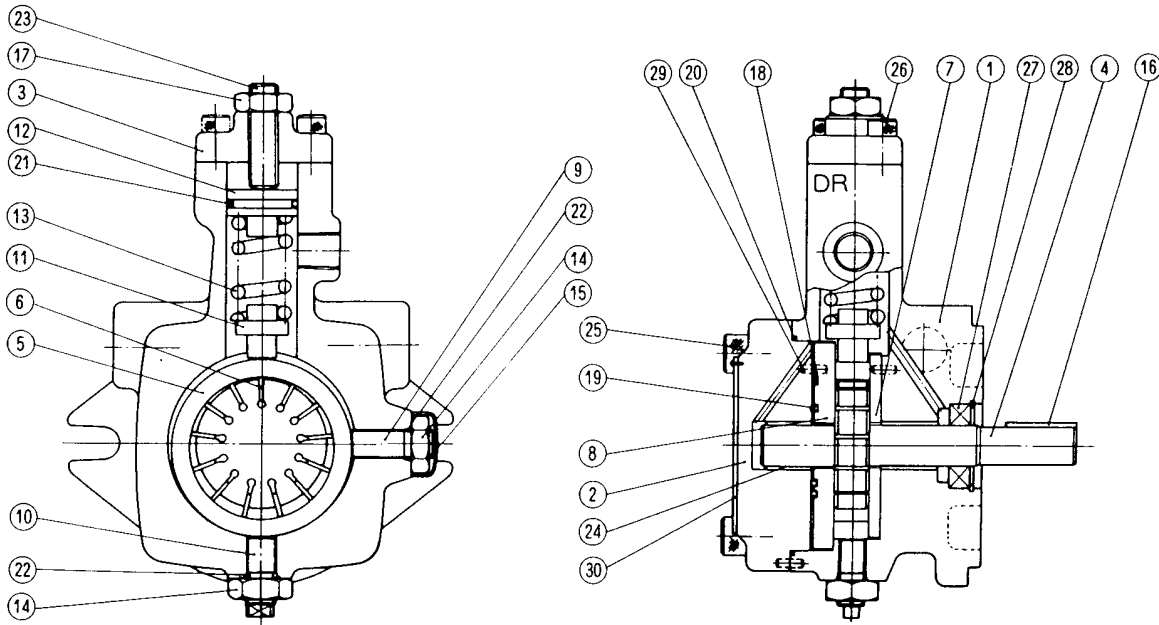
Noise level

measured at 1m behind pump



Cross Section Drawing

VDS-0B-1A✱E11



List of Seals

No.	Name of part	Number of Part	Qty.
18	O ring	ROA-032	1
19	O ring	ROA-023	1
20	O ring	S71 (NOK)	1
21	O ring	RO-P20	1
22	O ring	RO-PI0	2
27	Oil seal	TC-17358	1

Seal kit = VBAS-200B00

No.	Name of part	No.	Name of part
1	Body	16	Key
2	Cover (A)	17	Nut
3	Cover (B)	18	O ring
4	Shaft	19	O ring
5	Cam ring	20	O ring
6	Vane	21	O ring
7	Plate (S)	22	O ring
8	Plate (H)	23	Screw
9	Screw (A)	24	Bearing
10	Screw (B)	25	Screw
11	Piston	26	Screw
12	Holder	27	Oil seal
13	Spring	28	Snap ring
14	Nut	29	Pin
15	Cap	30	Name plate

VDR Series

HIGH PRESSURE TYPE VARIABLE VOLUME VANE PUMP

Standard Specifications

VDR Series

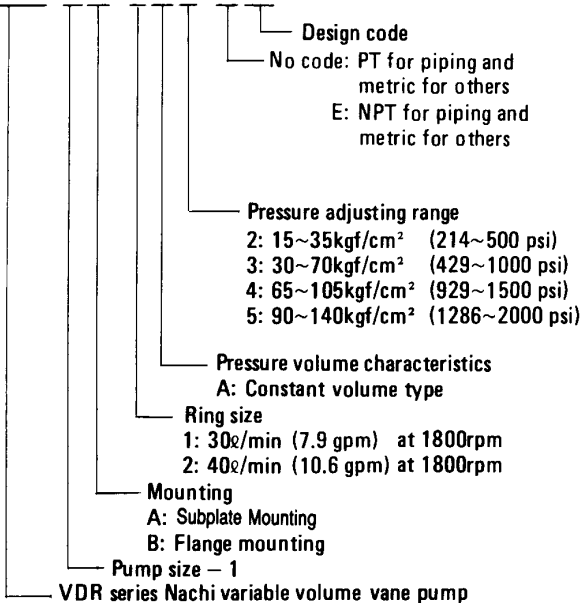
Model type		Delivery at no load ℓ/min (gpm)			Pressure adjust- ing range kgf/cm ² (psi)	Drive speed rpm		Max. setting pressure kgf/cm ² (psi)	Weight kg (lbs)
Foot mounting	Flange mounting	1800 r.p.m.	1500 r.p.m.	1200 r.p.m.		Max.	Min.		
VDR-1A-1A2- *22	VDR-1B-1A2- *22	30 (7.9)	25 (6.6)	20 (5.3)	15~35 (214~500)	1800	800	35 (500)	9 (19.9)
VDR-1A-1A3- *22	VDR-1B-1A3- *22				30~70 (429~1000)			70 (1000)	
VDR-1A-1A4- *22	VDR-1B-1A4- *22				65~105 (929~1500)			105 (1500)	
VDR-1A-1A5- *22	VDR-1B-1A5- *22				90~140 (1286~2000)			140 (2000)	
VDR-1A-2A2- *22	VDR-1B-2A2- *22	40 (10.6)	33 (8.7)	27 (7.1)	15~35 (214~500)	1800	800	35 (500)	9 (19.9)
VDR-1A-2A3- *22	VDR-1B-2A3- *22				30~70 (429~1000)			70 (1000)	

• Handling

- The rotation of these pumps is clockwise as viewed from the shaft side.
- Connect the drain piping directly to the oil tank at a point below the level of the oil inside.
- Maintain the suction pressure within -0.3kgf/cm² (-4.3psi) at the suction port.
- The pressure will be increased when the pressure adjusting screw is turned clockwise and will be reduced when the adjusting screw is turned counterclockwise.
- The flow will be reduced when the flow adjusting screw is turned clockwise and will be increased when the adjusting screw is turned counterclockwise.
- For proper alignment between the drive motor shaft and the pump shaft, the eccentricity between the drive shaft and pump shaft must be kept within 0.05mm (0.002in) and the eccentric angle error between them must be kept within 1°.
- Viscosity grade ISO VG32 or equivalent hydraulic oil having a viscosity index of 90 or more is recommended.
- The hydraulic oil temperature range is 15~60°C.
- When the pump is to be operated for the first time, place the pump delivery side in No-load condition and repeat starting and stopping of the motor a number of times to extract the air from inside of the pump piping.

Model Code

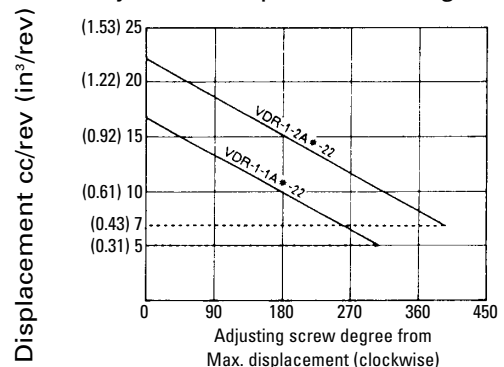
VDR-1A-1A5-※22



Sub Plate

Pump model	Sub plate model
VDR-1A-1A※-22	MVD-1-115-E10
	MVD-1-135-E10
VDR-1A-2A※-22	MVD-1-115X-E10
	MVD-1-135X-E10

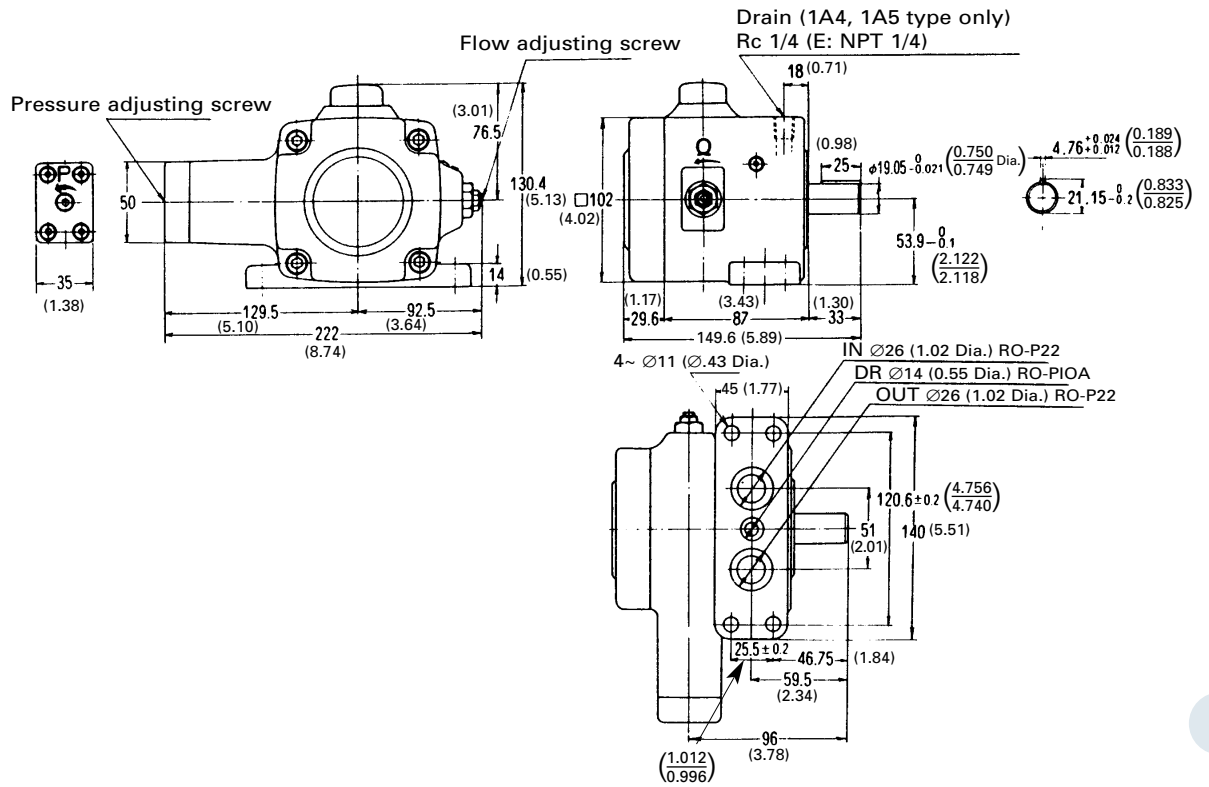
Adjustable displacement range



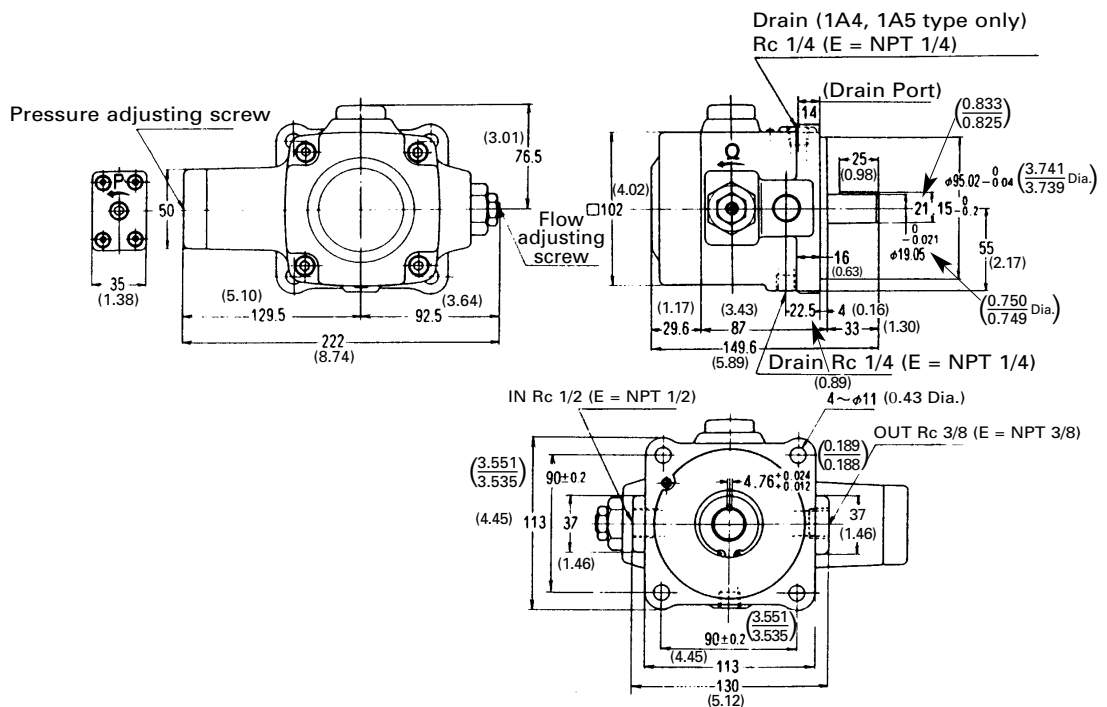
VDR Series

INSTALLATION DIMENSION MM (INCH)

VDC-1A-※A※-※22



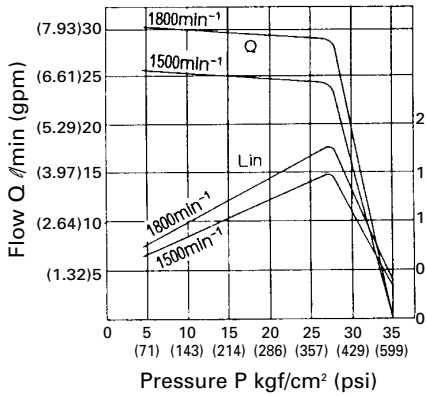
VDR-1B-※A※-※22



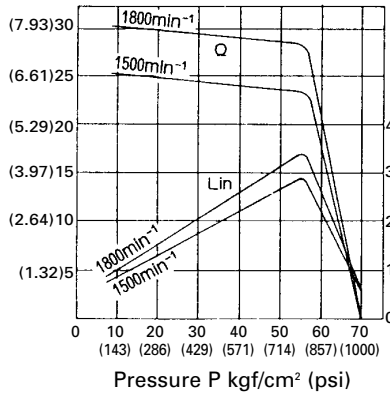
VDR Series

PERFORMANCE CURVES (OIL VISCOSITY = 32 cSt)

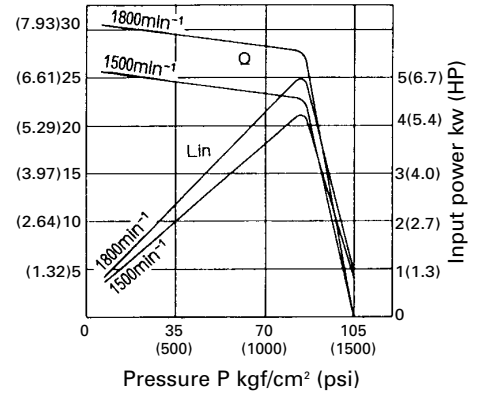
VDR-1※-1A2-22



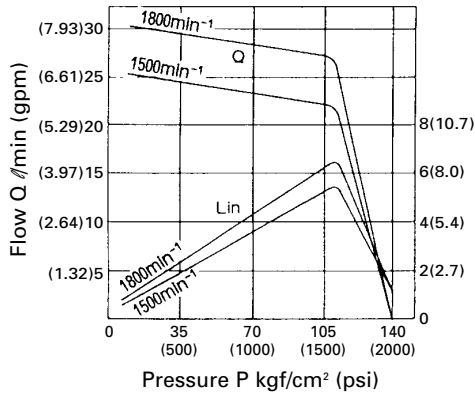
VDR-1※-1A3-22



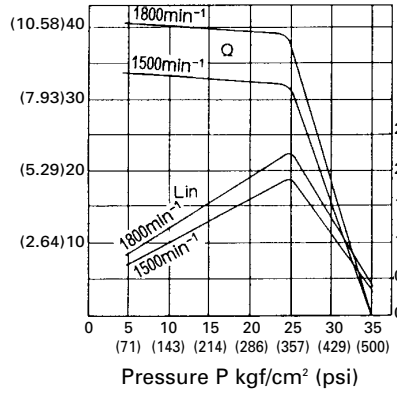
VDR-1※-1A4-22



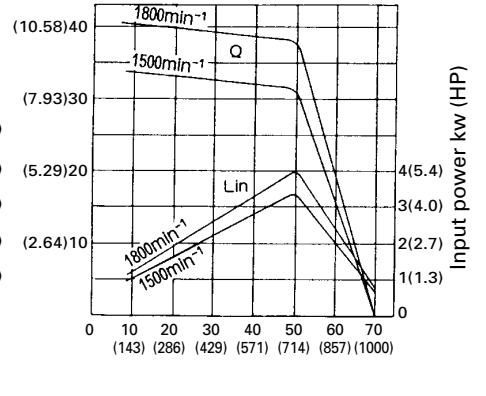
VDR-1※-1A5-22



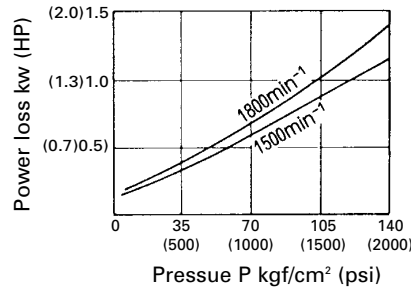
VDR-1※-2A2-22



VDR-1※-2A3-22



Power loss curves at Full-cut off



Noise Level

