Feature

The 3H pump is a large capacity pump for high pressure. The max. flow rates and discharge pressures are 117L/min or less and 4 MPa or less, respectively.
This pump are widely used in hydraulic, lubrication and cooling applications. By operation in low rotations, the pump can feed liquid in viscosity exceeding 10,000 mm2/s. There are 4 models and many combinations of the rotation direction, the seal, the relief valve and the temperature range including the VH version.

Model

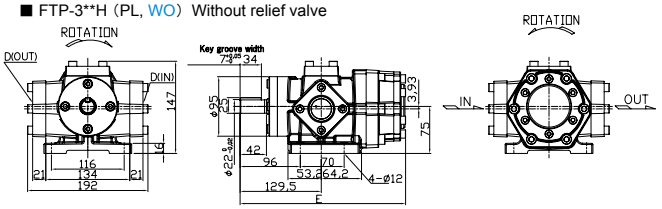
FTP– [Model No.] H [Applications] [Rotation direction] [Seal material] – [Relief valve] [Relief valve set pressure]

Model No.	Applications	Rotation direction	Seal material	Relief valve	Relief valve set pressure
320 330 340 350	No mark:Standard WO:Bunker oil, Coolant Water PL:Liquid seal	No mark:Clockwise L:Counter clockwise	No mark:Standard（-5～80℃） VF:Viton(R)for high temp.（120℃） VH:Ultrahigh temp.（200℃）	No mark:No valve VB:With valve (Internal-return) VD:With valve (External-return)	ex. 0.1:Set Pressure 0.1MPa（Spring No.1L） 0.5:Set Pressure 0.5MPa（Spring No.2L） 1.0:Set Pressure 1.0MPa（Spring No.3L） 2.0:Set Pressure 2.0MPa（Spring No.4L）

Model examples:FTP-330HL-VB0.1（Counter-clockwise seen from the shaft end seide）with relief valve（set pressure 0.1MPa）

Dimensional diagrams／Standard rotation (mm)

■ FTP-3**H（PL, WO） Without relief valve



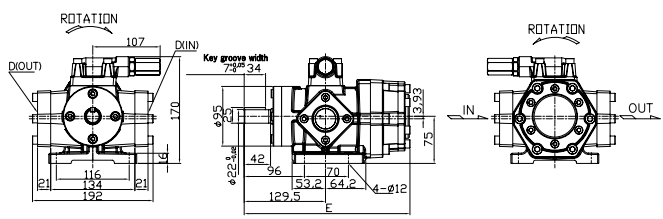
■ Standard and PL type

Model	D		E
	In	Out	
320H	Rc1	Rc1	264
330H	Rc1-1/4	Rc1	264
340H	Rc1-1/4	Rc1	264
350H	Rc1-1/4	Rc1	274

■ WO type

Model	D		E
	In	Out	
320H	Rc1-1/4	Rc1	264
330H	Rc1-1/4	Rc1	264
340H	Rc1-1/4	Rc1-1/4	264
350H	Rc1-1/4	Rc1-1/4	274

■ FTP-3**H-VB（PL, WO） With relief valve(Internal-return)(VB)



Spec

Model \ Spec	Flow rate per. rev. (ml/rev)	Theoretical flow rate(L/min) 1500min⁻¹	Theoretical flow rate(L/min) 1800min⁻¹	Max. discharge pressure(MPa)	Max. revolution (min⁻¹)	Approx.weight Without valve/With valve (kg)
320H(VB)	26	39.0	46.8	4.0	1800	16.9/17.7
330H(VB)	39	58.5	70.2	4.0	1800	17.0/17.8
340H(VB)	52	78.0	93.6	3.0	1800	17.0/17.8
350H(VB)	65	97.5	117.0	2.0	1800	18.0/18.8

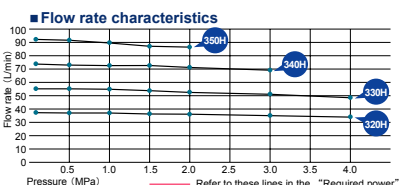
● The above max. discharge pressure and max. revolution are in combination with ISO-VG46 at 40℃.
The rates vary depending on viscosity and temperature.

Performance

● Test conditions Oil:ISO-VG46 Oil temp.:40℃

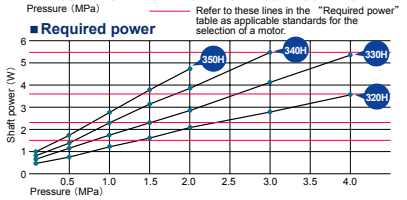
At 1,450 rotations（50Hz）

■ Flow rate characteristics



Refer to these lines in the "Required power" table as applicable standards for the selection of a motor.

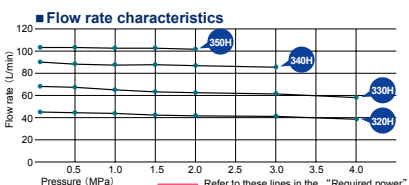
■ Required power



Model \ Spec	Flow rate (L/min) Pressure (MPa) 0.1	0.5	1.0	1.5	2.0	3.0	4.0	Required power (W) Pressure (MPa) 0.1	0.5	1.0	1.5	2.0	3.0	4.0
320H	37.2	36.9	36.5	36.2	35.7	34.9	33.5	0.45	0.78	1.20	1.60	2.02	2.83	3.64
330H	55.5	55.1	54.3	53.2	52.2	50.6	49.0	0.64	1.12	1.72	2.31	2.91	4.10	5.30
340H	74.6	73.9	73.0	72.1	71.2	69.5	—	0.80	1.45	2.25	3.10	3.90	5.50	—
350H	92.1	91.2	90.0	88.8	87.6	—	—	1.00	1.77	2.78	3.79	4.74	—	—

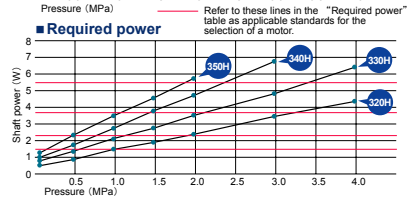
At 1,750 rotations（60Hz）

■ Flow rate characteristics



Refer to these lines in the "Required power" table as applicable standards for the selection of a motor.

■ Required power



Model \ Spec	Flow rate (L/min) Pressure (MPa) 0.1	0.5	1.0	1.5	2.0	3.0	4.0	Required power (W) Pressure (MPa) 0.1	0.5	1.0	1.5	2.0	3.0	4.0
320H	44.9	44.6	44.1	43.6	43.1	42.0	40.6	0.59	0.96	1.45	1.95	2.44	3.40	4.35
330H	67.3	66.5	65.5	64.4	63.3	61.2	59.0	0.78	1.34	2.05	2.80	3.51	4.93	6.40
340H	89.2	88.5	87.5	86.6	85.6	83.6	—	1.00	1.80	2.84	3.84	4.80	6.80	—
350H	108.4	108.0	107.4	106.8	106.3	—	—	1.35	2.28	3.48	4.65	5.83	—	—

● The required power varies depending on viscosity, temp. etc.