Nessie® Water Hydraulics

Nessie® Power pack type PPH 10/12.5

WN.10.D1.02 replace WN.90.A1.02

Application

The Nessie Power Pack PPH 10/12.5 is a compact and flexible supply unit designed for tap water hydraulic systems.

PPH 10/12.5 is primarily designed for the operation of cylinder and motor functions. PPH 10/12.5 distinguishes itself by its suitability for use in surroundings where a high degree of corrosion resistance is required or where safety or environmental considerations require the use of an alternative pressure media.

PPH 10/12.5 can also be used for applications as water mist system, high pressure cleaning system or other applications where high pressure water is used.

Design and function

PPH 10/12.5 includes a fixed displacement axial piston pump driven by an IEC electric motor, a plastic water tank, a return filter for the pressure medium, and a VPH 15 E Power Pack Valve containing the following functions: relief valve (for setting the required pressure), a normally open, electrically activated 2/2-way valve (to provide a bypass function). The water tank contains monitors for temperature and level. (Electric switch for minimum level + refill level). The water level can also be checked visually (sight glass).

PPH 10/12.5 is supplied with a flexible coupling and bell housing to suit an IEC (BF5 flange) electric motor. This size of motor provides a flexible Power Pack and thus makes it easier to optimise the hydraulic system. The Power Pack is supplied without a coil for the electrically activated bypass function. The coil has to be ordered separately. The performance of the electric motors which may be used with the power pack PPH 10/12.5 is:

IEC 100 = 0.75 kW - 3 kW, 750 - 3000 min^{-1}
IEC 112 = 1.5 kW - 4 kW, 750 - 3000 min^{-1}
IEC 132 = 3.0 kW - 7.5 kW, 750 - 3000 min^{-1}

Performance

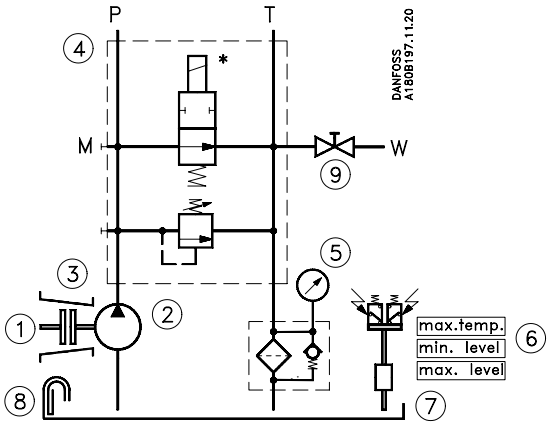
PPH 10/12.5 is available in the following versions:

1. 10 cc/rev. - 750 - 1500 min^{-1} ** => 6.7 - 13,5 l/min

2. 12.5 cc/rev. - 750 - 1500 min^{-1} ** => 8.6 - 17,2 l/min

** For speeds outside this range, please contact the Danfoss Sales Company.

Description



No.	Item	Description
1	Flexible coupling	For motor type IEC 100 / 112 / 132 - B5 flange**
2	Nessie PAH pump	Type PAH 10 or PAH 12.5
3	Bell housing	For motor IEC 100 /112 / 132 and pump flange ISO 3019/2 - 80 A2 HW
4	VPH 15 E (15 l/min)	Power-pack-valve - 2/2-way directional valve incl. pressure relief valve
5	FRH	Return filter (10 µm) incl. pressure gauge, bypass and breather (3 µm)
6	Monitor device	Temperatur and level monitoring
7	Tank	Volume 60 l (net volume between min. and max. level: 19 l), material: plastic
8	Hose (transparent)	Tank drain, visual tank level monitoring
9	Ball valve	Filling device

* Directional valve without coil - please order seperatly
** Special adapter + flex coupling necessary with electric motor IEC 132 , Nema C type 184 T and Nema C type 215 T. Order numbers can be found under section Code numbers.

Technical data

Variants	Performance		
Power pack	Motor	Max. flow	Pressure
Type	rev**	l/min	bar
PPH 10	750	6.7	25 - 140
PPH 10	1000	9.0	25 - 140
PPH 10	1500	13.5	25 - 140
PPH 12.5	750	8.6	25 - 140
PPH 12.5	1000	11.5	25 - 140
PPH 12.5	1500	17.2	25 - 140

**For speeds until 3000 rpm, please contact the Danfoss Sales Company.

Media temperature : min. +3°C - +50°C
Storage temperature : min. -40°C - +70°C

* In transport temperatures lower than -10°C, consideration must given to the reduced strength of plastic materials.

Filtration

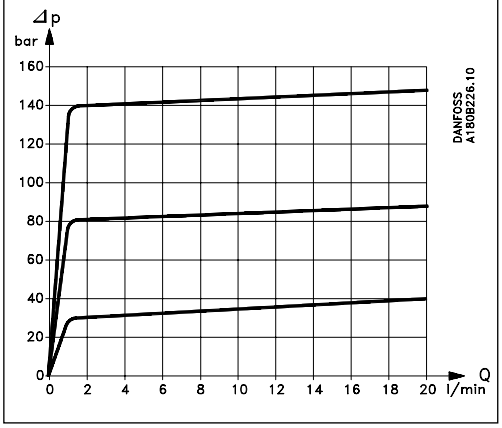
The filling of water must take place through a separate filter with a filtration fineness of 10 µm abs., ß$_{10}$ > 5000.

Technical data

Relief valve

Pressure setting range: 25 - 140 bar
Static characteristic:

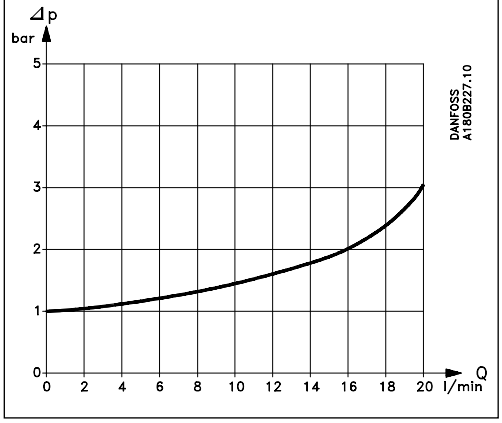
Flow characteristic



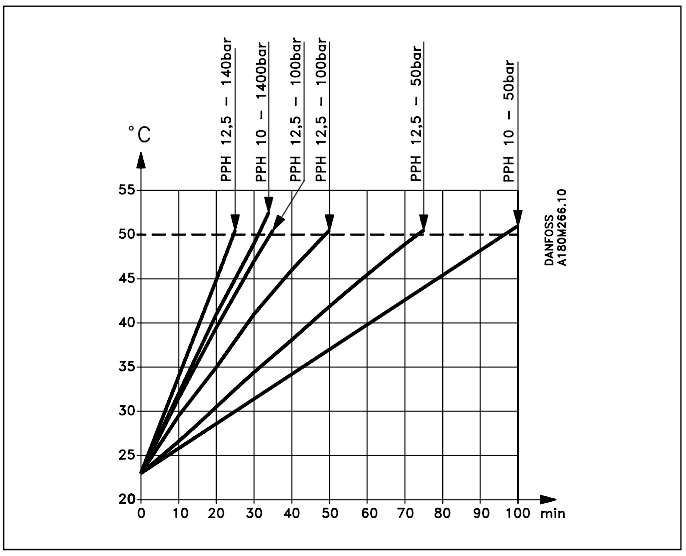
2/2-way valve

Max. pressure: 140 bar
Static characteristic:

pressure drop
(P->T, bypass function)

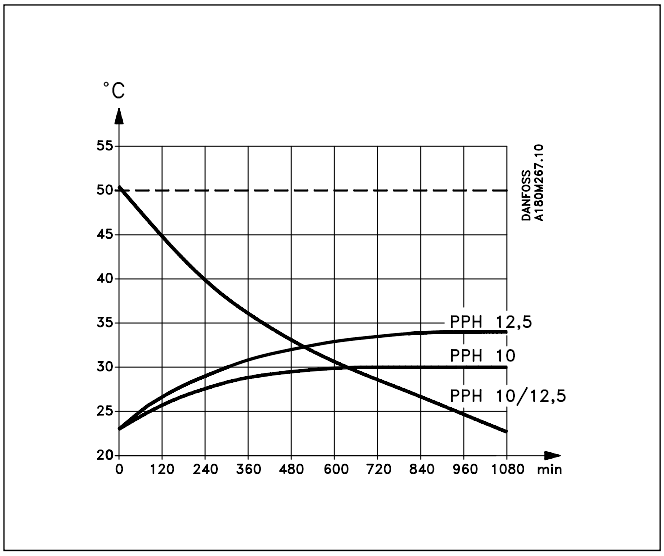


1. Heating up of power pack during continuous running without actuator activation (all flow through pressure relief valve) at different pressures. Electric motor speed = 1500 min^{-1}



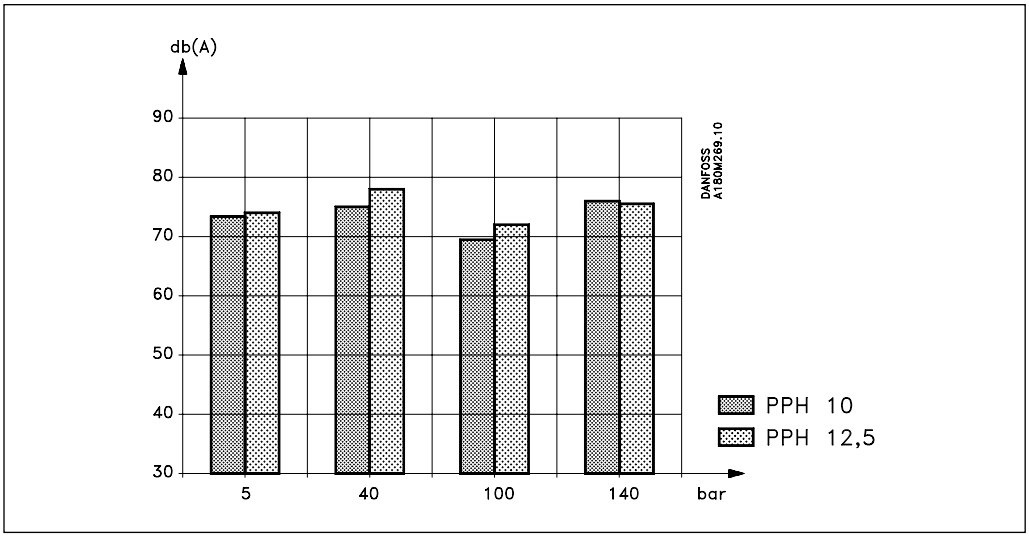
1. Heating up of power pack during continuous activation of bypass function. Electric motor speed = 1500 min^{-1}

2. Cooling down of power pack during standstill



Noise level

- Noise level measured according to ISO 3741 standard
- Noise level measured with electric motor type IEC 132, 5.5 KW/1500 min^{-1}
- Noise level inclusive the noise from the electric motor



Code numbers

Item	For electric motor type	Code numbers*
PPH 10	IEC 100/IEC 112	180B0292
PPH 12.5	IEC 100/IEC 112	180B0291
Mounting kit for electric motor	IEC 132	180B0293
Mounting kit for electric motor incl. SAE fittings	NEMA C type 184 T and 215 T	180B0294

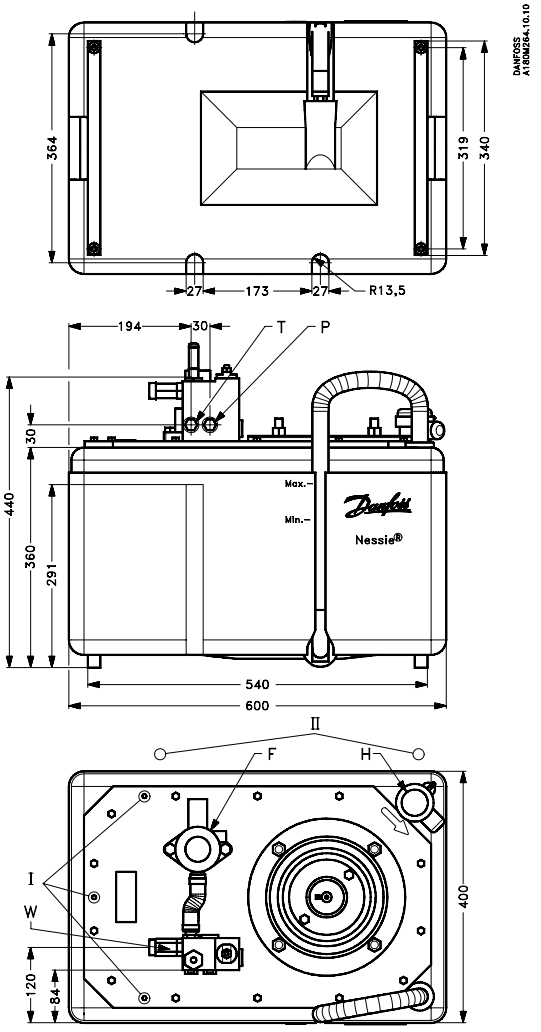
*Coil for bypass valve, please order separately

Coil	Code numbers
24 V / 50 Hz	018Z7920
220 V / 50 Hz	018Z7921
240 V / 50 Hz	018Z7924
24 V / 60 Hz	018Z7922
110 V / 60/50 Hz	018Z7923
12 V d.c.	018Z7913
24 V d.c.	018Z7914
220 V / 50 Hz EEX	018Z7992

Dimensions

F : Filtre

P : G 3/8 Pressure
T : G 3/8 Tank
W : G 1/2 Filling
H : Monitoring



I 3 off M8 x 10 threaded holes for mounting of additionel device.
II 6 off M10 x 8 threaded inserts in tank body for mounting of additional device.

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