Omega™

Glanded pumps. In-line

Explanatinon of data sheets

(1) **Head/capacity curves**
Curves according to EN 29906 grade 2 (ISO 9906)

(2) **NPSH curve**
Shows the minimum pressure in kPa required at the pump suction to avoid cavitation problems.

(3) **P1 - True running cost of the pump**
This takes into account the hydraulic efficiency and the motor efficiency.

(4) **Hydraulic efficiency - ηp**
This curve shows the hydraulic efficiency of the pump only, not taking into account the motor efficiency.

(5) **P2 - Motor size**
This is the actual kW of the motor fitted, which has been selected to be non-overloading over the complete head/capacity curve.

(6) **Airborne sound pressure levels**
The dB(A) readings are in accordance with EN 60034-9 and are the A-weighted sound pressure level, 1 m from the pump.

(7) **Motor efficiency - ηm**
The efficiencies of the standard motors fitted are shown in the table under "eff 3". The higher efficiencies of alternative motors are shown in columns "eff 1" and "eff 2"

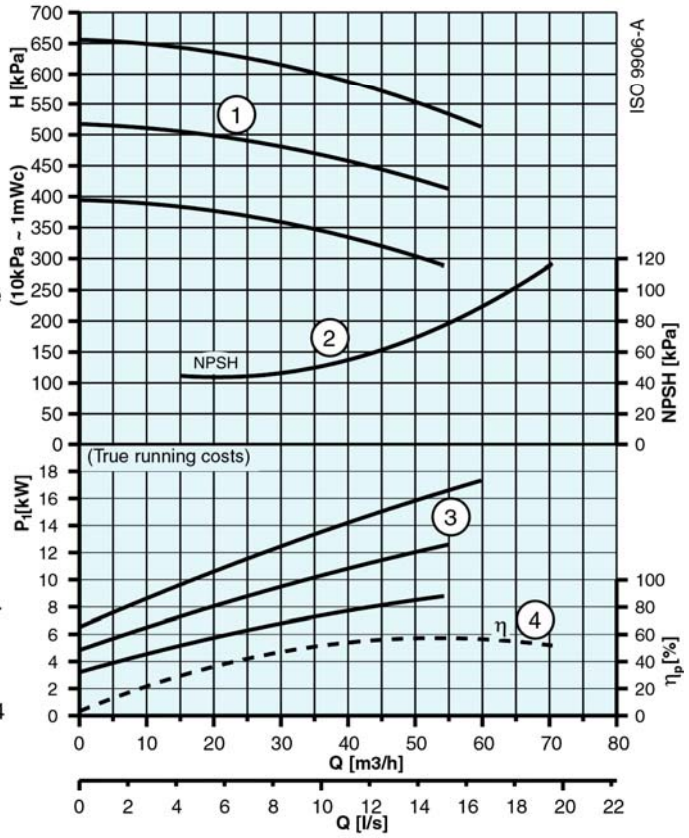
Example calculation of motor size and true running cost - pump model - Omega 10-160-4

Duty @ curve end = 94 m3/hr x 1.1 m; hydraulic efficiency - ηp = 28%

$$\text{Max kW} = \frac{\text{m3/hr x m}}{3.66 \times \eta p} = \frac{94 \times 1.1}{3.66 \times 28} = 1.009 \text{ kW},$$

motor fitted 1.1 kW.

True running cost = Max kW / motor eff. ηm = 1.009 / 0.72 = 1.4 kW.



P1:
True running costs
Optagen effekt
Leistungsaufname

$P_3 = Q \times H = \eta_p \times P_2$

$P_2 = \eta_m P_1$

Type.	Kg		(5) Motor	In (A) (50Hz) standard			Cos φ	n(min⁻¹)	(6) dB(A)	(7) ηm(%) standard.		
	Single	Twin	P2(kW)	1x230V	3x400/230V	3x690/400V				eff 1	eff 2	eff 3
Omega	125	240	15	-	28/48,5	16/28	0,90	2935	67	91,5	-	89
Omega	110	210	11	-	21/36	12/21	0,87	2925	67	90,7	-	87
Omega	80	150	7,5	-	14,5/25,1	8,4/14,5	0,89	2845	63	89,5	-	85,5

D = Twin pump

IEC 38 +/- 10%, 50 Hz, IP 55

This model is also available as an Omega-Drive - a selfregulating pump with integral inverter and optional differential pressure transducer.
Denne model fås også som Omega-Drive - en selvregulerende pumpe med integreret frekevensomformer med eller uden monteret differenstryk-transmitter.
Dieses Model ist auch als Omega-Drive lieferbar - eine selbtsregulierende Pumpe mit integriertem Umrichter, mit montiertem oder ohne Differenzdruckschalter.

SMEDEGAARD OF DENMARK