

DIESEL ENGINE

KDP SERIES FOR FIRE PUMP

Model: 4KDP-45

Prime power
Standby Power

45.0KW(60HP)/3000 rpm
49.5KW(66HP)/3000 rpm

Engine Specifications

In-Line, 4 stroke, water-cooled, Natural Aspiration
Combustion type Direct injection
Cylinders - Bore × stroke 4 - 90 × 105 mm
Displacement 2672 cc
Firing order 1 – 3 – 4 – 2
Compression ratio 18 : 1
Dry weight Approx. 250 kg
Dimension(LxWxH) 800 × 636 × 765 mm
Rotation Anti-clockwise
Flywheel / Housing SAE # 7.5 / # 4

Fuel System

Injection pump Direct Injection type
Governor Mechanicaltype
Feed pump Mechanicaltype
Injection nozzle Multi-hole type/ 0.255 mm
Opening pressure 20+0.5MPa
Fuel filter Single Stage, Paper

Fuel Consumption

Prime power at 3000rpm 11.1 liters/h
Standby Power at 3000rpm 12.2 liters/h

Cooling System

Cooling method Fresh water forced type
Water pump Centrifugal, Belt driven
Max. water Temp 95 degree C.
Cooling Fan Blade 7EA - Ø 410 mm

Lubrication System

Lub. Oil Pan Capacity 6.5 liters
Max. allowable Oil Temp 110 degree C.
Min. 294 kPa
Max. 490 kPa
Oil pressure

Intake & Exhaust System

Max air restriction Clean 2 kPa / Dirty 5 kPa
Exhaust back Max 6 kPa

Engineering Data

Combustion Air 1.92m³/min
Exhaust Gas 4.79m³/min

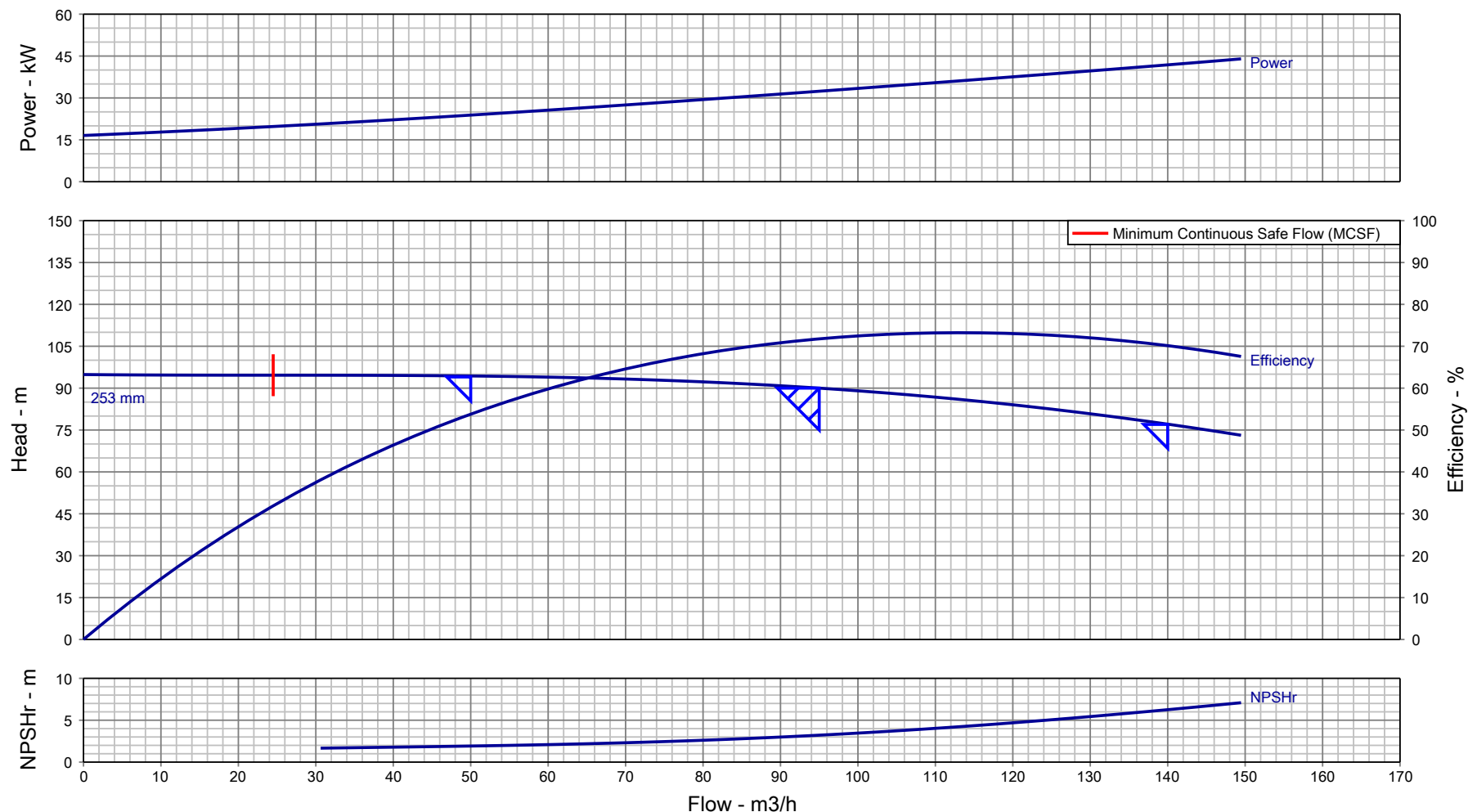
Electric System

Charging generator 13.5 V × 36 A
Starting motor 12 V × 3.7 kW
Battery 12 Vx 120 Ah

Conversion Table

PS = kW × 1.3596 in. = mm × 0.0394
psi = kg/cm² × 14.2233
HP= PS x 0.98635

Pump Performance Curve



Customer :	Pump Size/ Stages :	DB 65/26/ 1	Flow, rated :	95.00 m³/h
Customer enquiry :	Speed, rated :	2960 rpm	Differential Head :	90.00 m
Project : Default	Based on curve number :	HD10216A0 Rev 0	Fluid density rated :	0.998 kg/dm³
Quote number : 312657	Viscosity :	1.00 cSt	Efficiency :	71.77 %
Item number : 001	Cq/Ch/Ce/Cn [HI2010] :	1.00 / 1.00 / 1.00 / 1.00	Power, rated :	32.40 kW
Quantity : 1	Minimum recommended driver rating :	45.00 kW / 60.35 hp	NPSH required :	3.21 m
Date last saved : 09 Oct 2020 7:07 AM	Performance testing standard :	ISO 9906 / ANSI-HI 14.6 Gr 2B	Liquid Type/ Application :	Water

Notes: 1. Performance at shut off condition is approximate. 2. Rated impeller diameter is approximate. 3. Only duty point is guaranteed as per testing standard.



Enriching Lives

Pump Performance Datasheet

General

Customer	:	Quote number	: 312657
Customer Enquiry No.	:	Pump model	: DB 65/26
Project	: Default	Stages	: 1
End user	: -	Based on curve number	: HD10216A0 Rev 0
Tag number	: 001	Date last updated	: 09 Oct 2020 7:07 AM
Service	: -	Quantity of pumps	: 1

Operating Conditions

Flow, rated	: 95.00 m3/h
Suction pressure, rated / max	: 0.00 bar.g / 0.00 bar.g
Discharge pressure, rated	: 8.81 bar.g
Head, rated (requested)	: 90.00 m
NPSH available, rated	: Value not specified
Frequency	: 50 Hz

Liquid

Liquid handled	: Water
Additional liquid description	: Fresh Water
Temperature, max	: 20.00 deg C
Solids diameter, max	: 0.00 mm
Solids in suspension by volume	: 0.00 %
Specific gravity, rated / max	: 0.998 / 0.998 kg/dm3
Viscosity, Rated / Max.	: 1.00 cSt / -

Performance

Pump speed, rated	: 2960 rpm
Impeller Dia, Rated (Approx.)	: 253 mm
Impeller diameter, maximum	: 264 mm
Impeller diameter, minimum	: 205 mm
Efficiency at duty point	: 71.77 %
NPSH required / margin required	: 3.21 m / 0.50 m
MCSF	: 24.50 m3/h
Cq/Ch/Ce: [-]	: 1.00 / 1.00 / 1.00
Water eq. duties (Qw/Hw/Ew)	: 95.00 m3/h / 90.00 m / 71.77 %
Suction / Delivery nozzle size	: 80.00 mm / 65.00 mm
Noise level	: 90 dB
Vibration level (RMS)	: 5.1 mm/s
Test standard	: ISO 9906 / ANSI-HI 14.6 Gr 2B
Starting condition	: Closed Delivery Valve

Driver & Power Data

Driver sizing specification	: Maximum Power
Margin over specification	: 0.00 %
Power, rated	: 32.40 kW
-	: -
-	: -
Driver Rating	: 45KW

Pressure Data

Maximum working pressure	: 9.29 bar.g
Maximum allowable working pressure	: 16.00 bar.g
Maximum allowable suction pressure	: 1.96 bar.g
Hydrostatic test pressure	: 18.34 bar.g

Construction

Basic construction	: End Suction Pump-OH1
Impeller type	: Enclosed
Selection status	: Acceptable
Rec. Pipe Size (Suc / Del)	: 150 mm / 125 mm

Material

MOC Code	: 16MOC
Material (Casing / Impeller / Shaft)	: CI IS210:FG260 (012) / CI IS210:FG260 (012) / ST ST ASTM A276-410 ANLD (253)
-	: -

