

**Etaline 032-032-160 GG**  
 ETL 032-032-160-GGSCV66 WSEAV2HHB

**Operating point 1 Dimensioning operating point**

**Operating conditions (purchaser requirements)**

Target flow rate		Vapour pressure determined	0.04164 bar.a
Target head		Minimum inlet pressure	-0.3 bar
Fluid	Antifreeze on ethylene glycol base, inhibited, closed system, e.g. Antifrogen N or similar products	required	
Fluid variant	Concentration 40% 50261	Specified ambient temperature	20 °C
Specified fluid temperature	30 °C	Installation altitude above sea level	1,000 m
Density Fluid handled	1,047 kg/m <sup>3</sup>		
Kinematic viscosity Fluid handled	2.243 mm <sup>2</sup> /s		

**Operating conditions (performance)**

Flow rate	2.999 m <sup>3</sup> /h	Maximum power input at duty point	0.6435 kW
Minimum permissible flow rate	2.407 m <sup>3</sup> /h	Maximum power input / curve	1.189 kW
Head	19.98 m	Pump speed	2,857 1/min
Shut-off head	20.68 m	Discharge pressure-max.	2.123 bar
Efficiency Pump	26.55 %		
NPSH required	2.78 m		

**Design data pump**

Scope of supply Pump supplied by KSB	Pump + motor	Mains voltage	400 V
Pump standard	EN 733	Mains frequency	50 Hz
Shaft axis position	Vertical	Minimum efficiency index MEI	0.7
Pump design	Close-coupled	Minimum permissible fluid temperature	-30 °C
Pump system design	Single-pump system	Maximum permissible fluid temperature	120 °C
Specification of wetted parts	Manufactured without paint wetting impairment substances	Quantity Stages, single-entry	1
Pump direction of rotation, viewed from casing side	Counterclockwise	Casing wear ring design suction-side	Flat
Impeller diameter D2	127 mm	Casing wear ring design discharge-side	Flat
Impeller type	Radial, closed, multi-channel	Installation chamber Casing cover	Conical (A-type cover)
Free passage	5.4 mm	Bearing bracket size / shaft unit	25
Nut lock for Impeller	No	Pump directive	CE
Swirl break	No		
Support foot	No		

**Etaline 032-032-160 GG**

ETL 032-032-160-GGSCV66 WSEAV2HHB

**Nozzle connections pump**

Nominal diameter Suction nozzle	DN 32	Nominal diameter Discharge nozzle	DN 32
Nominal pressure Suction nozzle	PN 16	Nominal pressure Discharge nozzle	PN 16
Suction nozzle position	Opposite of discharge nozzle	Discharge nozzle position	0 deg
Suction nozzle design acc.to	EN1092-2	Discharge nozzle design acc.to	EN1092-2
Suction flange bolt hole pattern as per standard	EN1092-2	Discharge flange bolt hole pattern as per standard	EN1092-2
Flange facing type Inlet	Raised face (B,RF,C)		
Flange facing type Outlet	Raised face (B,RF,C)		

**Auxiliary connections pump**

6B Fluid Drain	G 1/4 Drilled and plugged	1M Pressure gauge Discharge nozzle	Without Without
6D Fluid Filling and venting	G 1/4 Drilled and plugged	1M Pressure gauge Suction nozzle	Without Without
Connection type 5B Venting and drain	G 1/4 Manual globe valve, fitted		

**Shaft sealing**

Shaft seal type	SMS A-type cover, vented	Shaft seal code	Code 66
Determined pressure Seal chamber	1.29 bar	Shaft seal manufacturer inboard	BURGMANN
		Mechanical seal type inboard	MG13G6
		Material Shaft seal inboard	Q7Q7EGG

**Etaline 032-032-160 GG**

ETL 032-032-160-GGSCV66 WSEAV2HHB

**Materials**

Material Volute casing (102)	EN-GJL-250/A48 CL 35B	Material Bolts/Screws	8.8
Material Casing cover (161)	EN-GJL-250/A48 CL 35B	Hydraulic casing (902.01)	
Material Shaft	C45+N	Material Screw plug Hydraulic casing (903.01)	ST
Material Impeller (230)	EN-GJL-250/A48 CL 35B	Material Static seal Screw plug Volute casing	A4/AISI 316
Material Static seal Hydraulic casing (400.10)	DPAF DW001	Material Nut Impeller fastening (920.95)	(ST)
Material Casing wear ring suction-side	JL/LAMELLAR GRAPHITE CAST IRON	Material Key	C45+C/A311 GR 1045 CLASS A
Material Casing wear ring discharge-side	JL/LAMELLAR GRAPHITE CAST IRON		
Material Shaft protecting sleeve (523)	(CRNIMO ST INT)		
Material Static seal Discharge cover	DPAF DW001		
Material Drive lantern	EN-GJL-250/A48 CL 35B		
Material Support foot	WITHOUT		

**Driver**

Electric motor	Yes	Rated speed Motor	2,825 1/min
Drive concept	With electric actuator	Number of motor poles	2
Drive standard, mechanical	IEC	Rated power Motor	0.75 kW
Drive standard electric	IEC	Motor power reserve determined	16.6 %
Motor bearing, insulated	No	Rated voltage Motor	400 V
Motor manufacturer	KSB's choice	Motor winding	230 / 400 V
Customer supply Drive	No	Rated frequency Motor	50Hz
Motor construction type	IM V1 (IM3011) IEC 60034-7	Motor switching type	Star
Motor size	80M	Rated current Motor	1.72 A
Efficiency class	IE3 (Premium)	Starting current ratio Ia/In	7.9
Material motor housing	AL	Cos phi at 4/4 load	0.74
Enclosure Motor	IP55	Motor efficiency at 4/4 load	80.7 %
Thermal class	155 (F) nach IEC 60085	Directive Drive	CE
Temperature sensor motor	1 PTC thermistors		
Terminal box position of motor (looking at the motor shaft)	360 Grad		
Operation on a frequency inverter permitted	Yes (acc to motor manufact)		
Sound pressure level Motor	63 dBa		
Type series Motor manufacturer	Acc. to motor manufacturer		

**Etaline 032-032-160 GG**

ETL 032-032-160-GGSCV66 WSEAV2HHB

**Coating**

**Aggregate**

Surface preparation

Free from dirt, grease, rust

Properties Primer coat

Hydro dip primer, water-dilutable

Thickness Primer coat

60 µm

Properties Top coat

Acrylate dispersion water-thin

Thickness Top coat

40 µm

Colour Top coat

RAL5002 Ultramarine Blue

**Packaging**

Suitable for transport

Truck transport

Suitable for storage

Indoor storage

Packaging category

KSB's choice (A0)

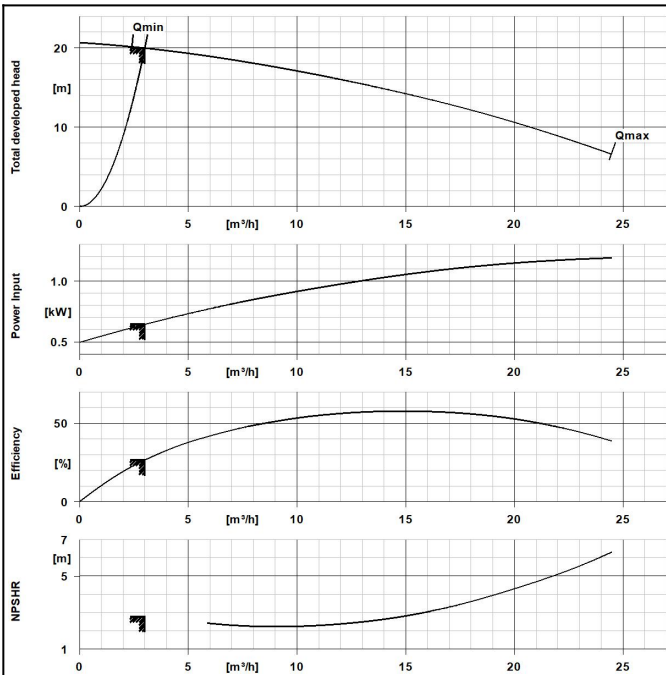
**Nameplates**

Duplicate name plate

No

**Etaline 032-032-160 GG**

ETL 032-032-160-GGSCV66 WSEAV2HHB



**Design data pump**

Pump standard	EN 733
Pump design	Close-coupled
Nominal diameter Suction nozzle	DN 32
Suction flange bolt hole pattern as per standard	EN1092-2
Nominal diameter Discharge nozzle	DN 32
Nominal pressure Discharge nozzle	PN 16
Discharge flange bolt hole pattern as per standard	EN1092-2
Material Shaft seal inboard	Q7Q7EGG
Shaft seal code	Code 66
Impeller diameter D2	127 mm
Free passage	5.4 mm
Specification of wetted parts	Manufactured without paint wetting impairment substances

**Materials**

Material Volute casing	EN-GJL-250/A48 CL 35B
Material Casing cover	EN-GJL-250/A48 CL 35B
Material Support foot	WITHOUT
Material Shaft	C45+N
Material Impeller	EN-GJL-250/A48 CL 35B

**Dimensioning operating point**

Fluid	Antigel à base d'éthylène glycol, inhibé, système fermé, par ex. Antifrogen N ou produits équivalents
Fluid variant	Concentration 40% 50261
Specified ambient temperature	20 °C
Specified fluid temperature	30 °C
Specified fluid temperature	30 °C
Flow rate	2.999 m³/h
Head	19.98 m
Efficiency Pump	26.55 %
Minimum efficiency index MEI	0.7
Maximum power input at duty point	0.6435 kW
Pump speed	2,857 1/min
Pump system design	Single-pump system
NPSH required	2.78 m

**Driver**

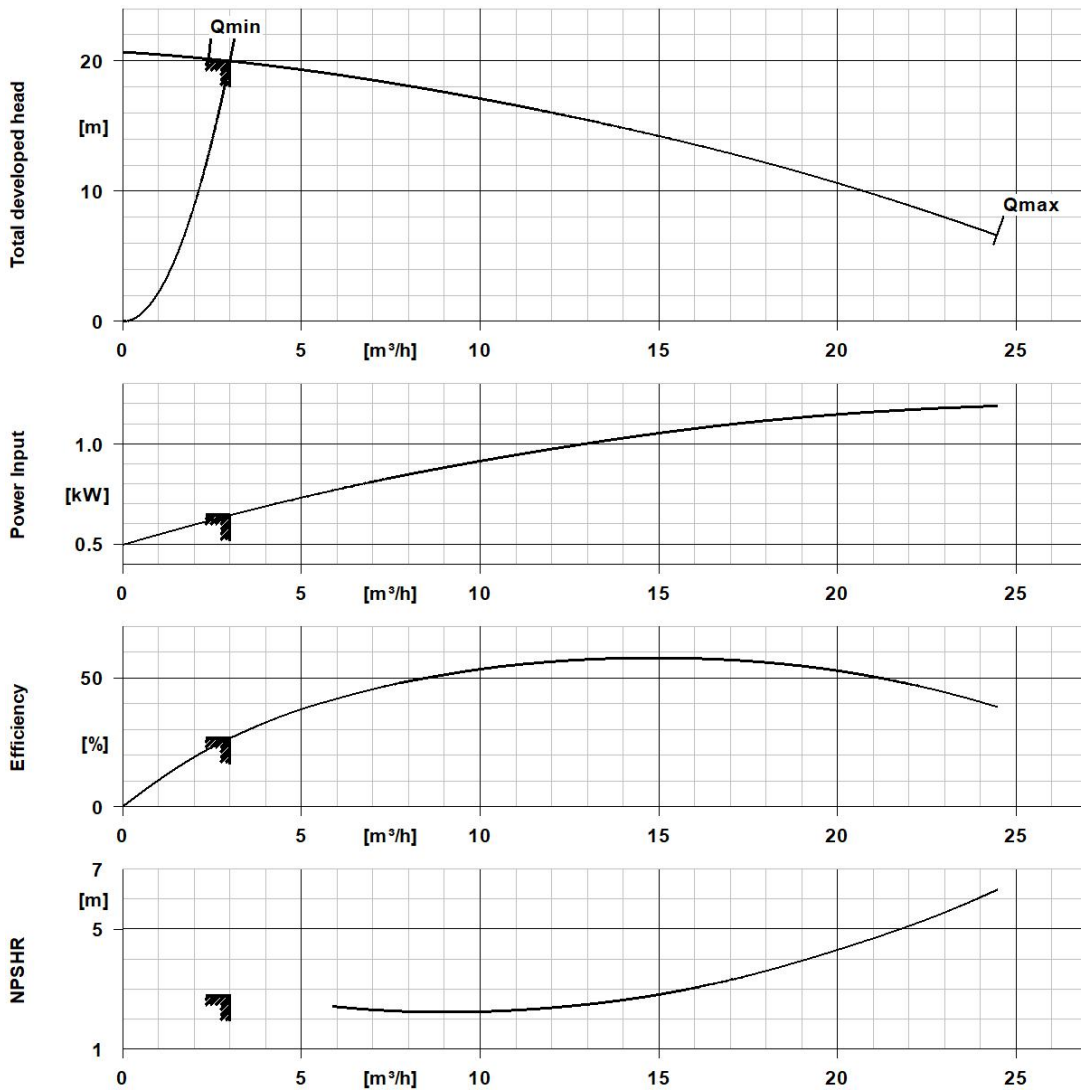
Drive concept	With electric actuator
Drive standard, mechanical	IEC
Drive standard electric	IEC
Efficiency class	IE3 (Premium)
Rated speed Motor	2,825 1/min
Rated frequency Motor	50Hz
Rated voltage Motor	400 V
Rated power Motor	0.75 kW
Motor power reserve determined	16.6 %

**Etaline 032-032-160 GG**

ETL 032-032-160-GGSCV66 WSEAV2HHB

	Rated current Motor	1.72 A
	Starting current ratio $I_a/I_n$	7.9
	Thermal class	155 (F) nach IEC 60085
	Enclosure Motor	IP55
	Temperature sensor motor	1 PTC thermistors
	Mains voltage	400 V
	Motor switching type	Star
	Operation on a frequency inverter permitted	Yes (acc to motor manufact)
	Sound pressure level Motor	63 dBa
	Terminal box position of motor (looking at the motor shaft)	360 Grad

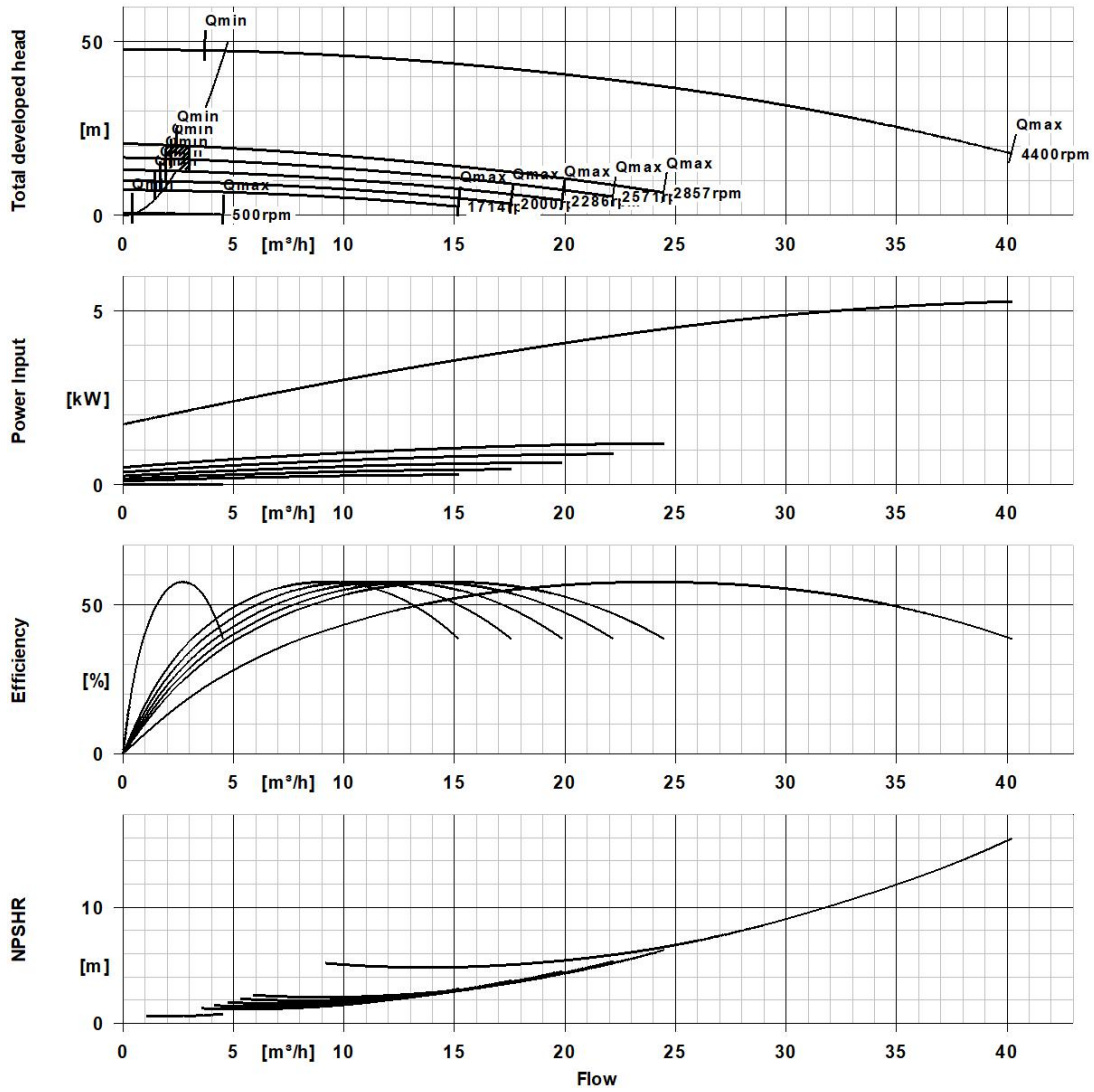
**Etaline 032-032-160 GG**  
 ETL 032-032-160-GGSCV66 WSEAV2HHB



**Curve Data**

Pump speed	2,857 1/min	Efficiency Pump	26.6 %
Density Fluid handled	1,047 kg/m <sup>3</sup>	Minimum efficiency index MEI	0.7
Kinematic viscosity Fluid handled	2.24 mm <sup>2</sup> /s	Maximum power input at duty point	0.64 kW
Flow rate	3 m <sup>3</sup> /h	NPSH required	2.78 m
Head	20 m	Hydraulic impeller diameter	126.4 mm
		Hydraulic calculation according to standard/class	EN ISO 9906 Class 3B

**Etaline 032-032-160 GG**  
 ETL 032-032-160-GGSCV66 WSEAV2HHB

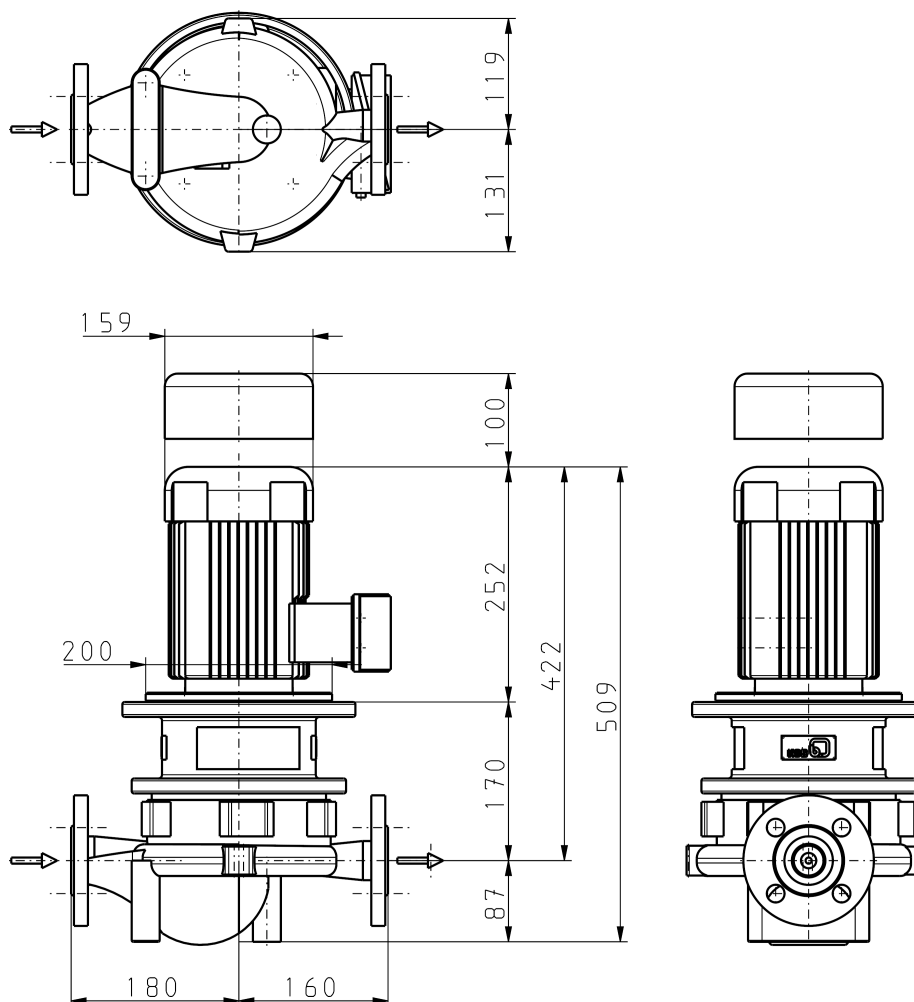


**Curve Data**

Density Fluid handled	1,047 $kg/m^3$	Minimum efficiency index MEI	0.7
Kinematic viscosity Fluid handled	2.24 $mm^2/s$	Hydraulic impeller diameter	126.4 mm
Flow rate	2.999 $m^3/h$	Head	19.98 m



**Etaline 032-032-160 GG**  
 ETL 032-032-160-GGSCV66 WSEAV2HHB



Drawing is not to scale.

Dimensions are given in mm

**Motor**

Motor manufacturer	KSB's choice
Motor size	80M
Rated power Motor	0.75 kW
Number of motor poles	2
Rated speed Motor	2,825 1/min
Terminal box position of motor (looking at the motor shaft)	360 Grad

**Connections**

Nominal diameter Suction nozzle	DN 32
Suction flange bolt hole pattern as per standard	EN1092-2
Nominal diameter Discharge nozzle	DN 32
Discharge flange bolt hole pattern as per standard	EN1092-2
Nominal pressure Suction nozzle	PN 16
Nominal pressure Discharge nozzle	PN 16

**Net weight**

Total weight Pump	25.6 kg
Total weight Drive	14 kg
Total weight Pump set	39.6 kg

**Etaline 032-032-160 GG**

ETL 032-032-160-GGSCV66 WSEAV2HHB

**Connect pipelines stress-free**

**Plan for additional connections see extra drawing**

Dimensional tolerances for shaft axis height: DIN 747

Dimensions without tolerances, middle tolerances to: ISO 2768-m

Connection dimensions for pumps: EN735

Dimensions without tolerances - welded parts: ISO 13920-B

Dimensions without tolerances - gray cast iron parts: ISO 8062-CT9