

Etabloc 125-100-200 GG
 ETB 125-100-200-GGSBV07 WSFGY2HHB

Operating point 1 Dimensioning operating point

Operating conditions (purchaser requirements)

Target flow rate	270 m³/h	Vapour pressure determined	0.00443 bar.a
Target head	54 m	Minimum inlet pressure	-0.3 bar.r
Fluid	Antifreeze on propylene glycol base, inhibited, closed system, e.g. Antifrogen L or similar products	required	
Fluid variant	Concentration 30%	Specified ambient temperature	20 °C
Specified fluid temperature	-8 °C	Installation altitude above sea level	1,000 m
Density Fluid handled	1,041 kg/m³		
Kinematic viscosity Fluid handled	11.52 mm²/s		

Operating conditions (performance)

Flow rate	270 m³/h	Maximum power input at duty point	49.96 kW
Minimum permissible flow rate	46.09 m³/h	Maximum power input / curve	56.71 kW
Head	54 m	Pump speed	2,962 1/min
Shut-off head	60.07 m	Discharge pressure-max.	6.131 bar.r
Efficiency Pump	82.69 %		
NPSH required	5.17 m		

Design data pump

Scope of supply Pump supplied by KSB	Pump + motor	Input voltage and frequency	Without
Pump standard	EN 733	Mains voltage	400 V
Shaft axis position	Horizontal	Mains frequency	50 Hz
Pump design	Close-coupled	Minimum efficiency index MEI	0.7
Pump system design	Single-pump system	Minimum permissible fluid temperature	-30 °C
Specification of wetted parts	Manufactured without paint wetting impairment substances	Maximum permissible fluid temperature	110 °C
Pump direction of rotation, viewed from casing side	Counterclockwise	Quantity Stages, single-entry	1
Impeller diameter D2	210 mm	Casing wear ring design suction-side	Flat
Impeller type	Radial, closed, multi-channel	Casing wear ring design discharge-side	Flat
Free passage	17.9 mm	Installation chamber Casing cover	Conical (A-type cover)
Nut lock for Impeller	No	Bearing bracket size / shaft unit	35
Swirl break	No	Pump bearing type, non-drive end	Anti-friction bearing
Support foot	No	Pump bearing type, drive end	Anti-friction bearing
		Pump directive	CE

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Nozzle connections pump

Nominal diameter Suction nozzle	DN 125	Nominal diameter Discharge nozzle	DN 100
Nominal pressure Suction nozzle	PN 16	Nominal pressure Discharge nozzle	PN 16
Suction nozzle position	Axial	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)		
Flange facing type Outlet	Raised face (B,RF)		

Auxiliary connections pump

6B Fluid Drain	G 1/2 Drilled and plugged	1M Pressure gauge Discharge nozzle	Without Without
6D Fluid Filling and venting	G 1/2 Drilled and plugged	1M Pressure gauge Suction nozzle	Without Without
5B Venting and drain	G 1/4 Drilled and plugged		

Shaft sealing

Shaft seal type	SMS A-type cover, vented	Shaft seal code	Code 07
Operating mode of mechanical seal (function)	API plan 03	Shaft seal manufacturer inboard	KSB's choice
Determined pressure Seal chamber	0.06 bar.r	Mechanical seal type inboard	1A
		Material Shaft seal inboard	Q1Q1EGG

Materials

Material Volute casing (102)	EN-GJL-250/A48 CL 35B	Material Bolts/Screws Volute casing (902.01)	8.8
Material Casing cover (161)	EN-GJL-250/A48 CL 35B	Material Screw plug Volute casing (903.01)	ST
Material Shaft	C45+N	Material Static seal Screw plug Volute casing	A4/AISI 316
Material Impeller (230)	EN-GJL-250/A48 CL 35B	Material Nut Impeller fastening (920.95)	(ST)
Material Casing wear ring suction-side (502.01)	JL/LAMELLAR GRAPHITE CAST IRON	Material Key	C45+C/A311 GR 1045 CLASS A
Material Casing wear ring discharge-side (502.02)	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		

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Driver

Electric motor	Yes	Rated speed Motor	2,975 1/min
Drive concept	Electric actuator	Number of motor poles	2
Drive standard, mechanical	IEC	Rated power Motor	55 kW
Drive standard electric	IEC	Motor power reserve determined	9.52 %
Motor bearing, insulated	Yes	Rated voltage Motor	400 V
Motor manufacturer	Siemens	Motor winding	400 / 690 V
Customer supply Drive	No	Rated frequency Motor	50Hz
Motor construction type	IM V15 (IM2011) IEC 60034-7	Motor switching type	Delta
Motor size	250M	Rated current Motor	95 A
Efficiency class	IE3 (Premium)	Starting current ratio Ia/In	6.7
Material motor housing	JL/LAMELLAR GRAPHITE CAST IRON	Cos phi at 4/4 load	0.89
Enclosure Motor	IP55	Motor efficiency at 4/4 load	96 %
Enclosure Unit	Without	Directive Drive	CE
Thermal class	155 (F) nach IEC 60085		
Temperature sensor motor	3 PTC thermistors		
Terminal box position of motor (looking at the motor shaft)	360 °		
Operation on a frequency inverter permitted	Yes (acc to motor manufact)		
Sound pressure level Motor	73 dBa		
Type series Motor manufacturer	1LE1		

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-thinned
Thickness Top coat	40 µm
Colour Top coat	RAL5002 Ultramarine Blue

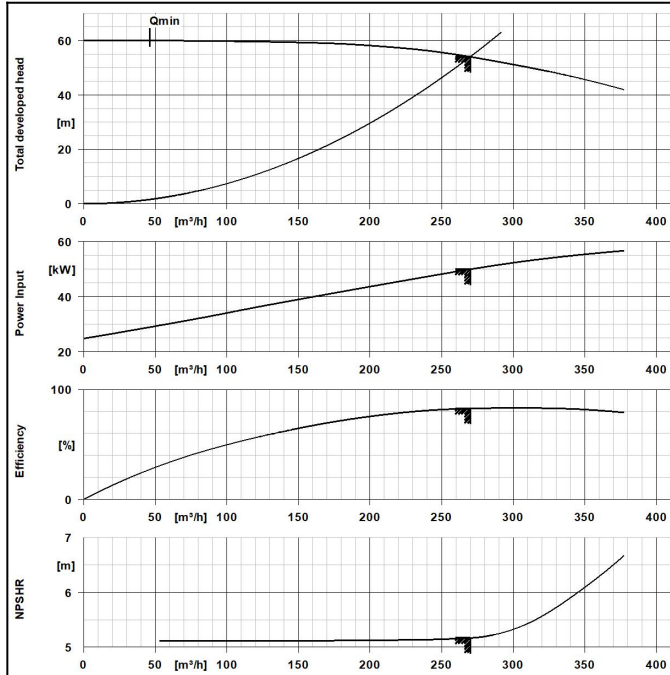
Packaging

Suitable for transport	Truck transport
Suitable for storage	Indoor storage
Packaging category	KSB's choice (A0)

Nameplates

Duplicate name plate	No
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Materials

Material Volute casing	EN-GJL-250/A48 CL 35B
Material Casing cover	EN-GJL-250/A48 CL 35B
Material Shaft	C45+N
Material Impeller	EN-GJL-250/A48 CL 35B

Dimensioning operating point

Fluid	Antifreeze on propylene glycol base, inhibited, closed system, e.g. Antifrogen L or similar products
Fluid variant	Concentration 30%
Specified ambient temperature	20 °C
Specified fluid temperature	-8 °C
Flow rate	270 m³/h
Head	54 m
Efficiency Pump	82.7 %
Minimum efficiency index MEI	0.7

Maximum power input at duty point	49.96 kW
Pump speed	2,962 1/min
Pump system design	Single-pump system
NPSH required	5.17 m

Driver

Drive concept	Electric actuator
Drive standard, mechanical	IEC
Drive standard electric	IEC
Efficiency class	IE3 (Premium)
Rated speed Motor	2,975 1/min
Rated frequency Motor	50Hz
Rated voltage Motor	400 V
Motor power reserve determined	9.52 %

Design data pump

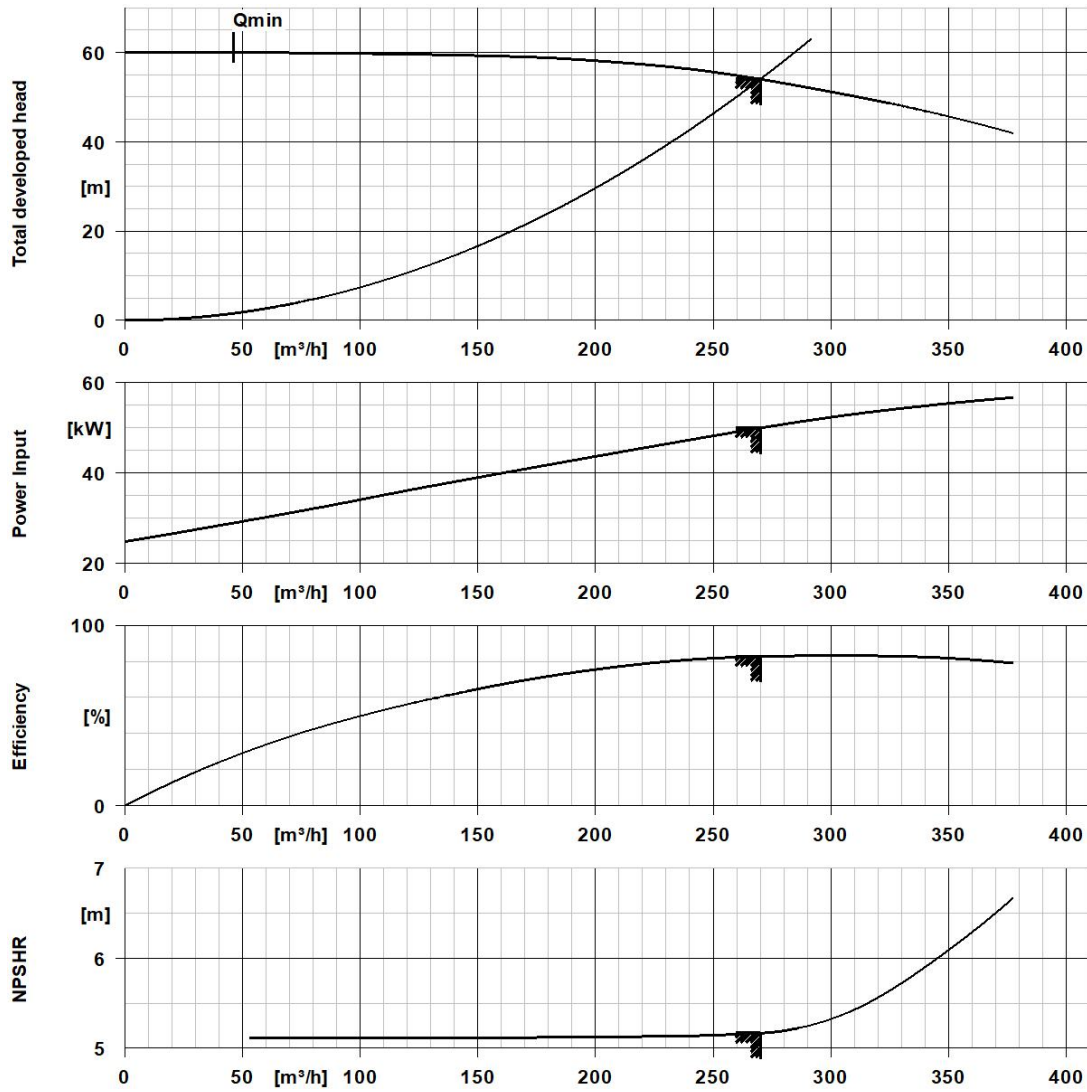
Pump standard	EN 733
Pump design	Close-coupled
Nominal diameter Suction nozzle	DN 125
Suction nozzle design acc.to	EN1092-2
Suction flange bolt hole pattern as per standard	EN1092-2
Nominal diameter Discharge nozzle	DN 100
Discharge nozzle design acc.to	EN1092-2
Discharge flange bolt hole pattern as per standard	EN1092-2
Nominal pressure Suction nozzle	PN 16
Nominal pressure Discharge nozzle	PN 16
Shaft/Stem seal	Inboard single-acting mechanical seal
Material Shaft seal inboard	Q1Q1EGG
Shaft seal code	Code 07
Impeller diameter D2	210 mm
Free passage	17.9 mm
Specification of wetted parts	Manufactured without paint wetting impairment substances



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	Rated current Motor	95 A
	Starting current ratio I_a/I_n	6.7
	Thermal class	155 (F) nach IEC 60085
	Enclosure Motor	IP55
	Temperature sensor motor	3 PTC thermistors
	Mains voltage	400 V
	Motor switching type	Delta
	Operation on a frequency inverter permitted	Yes (acc to motor manufact)
	Sound pressure level Motor	73 dBa
	Terminal box position of motor (looking at the motor shaft)	360 °

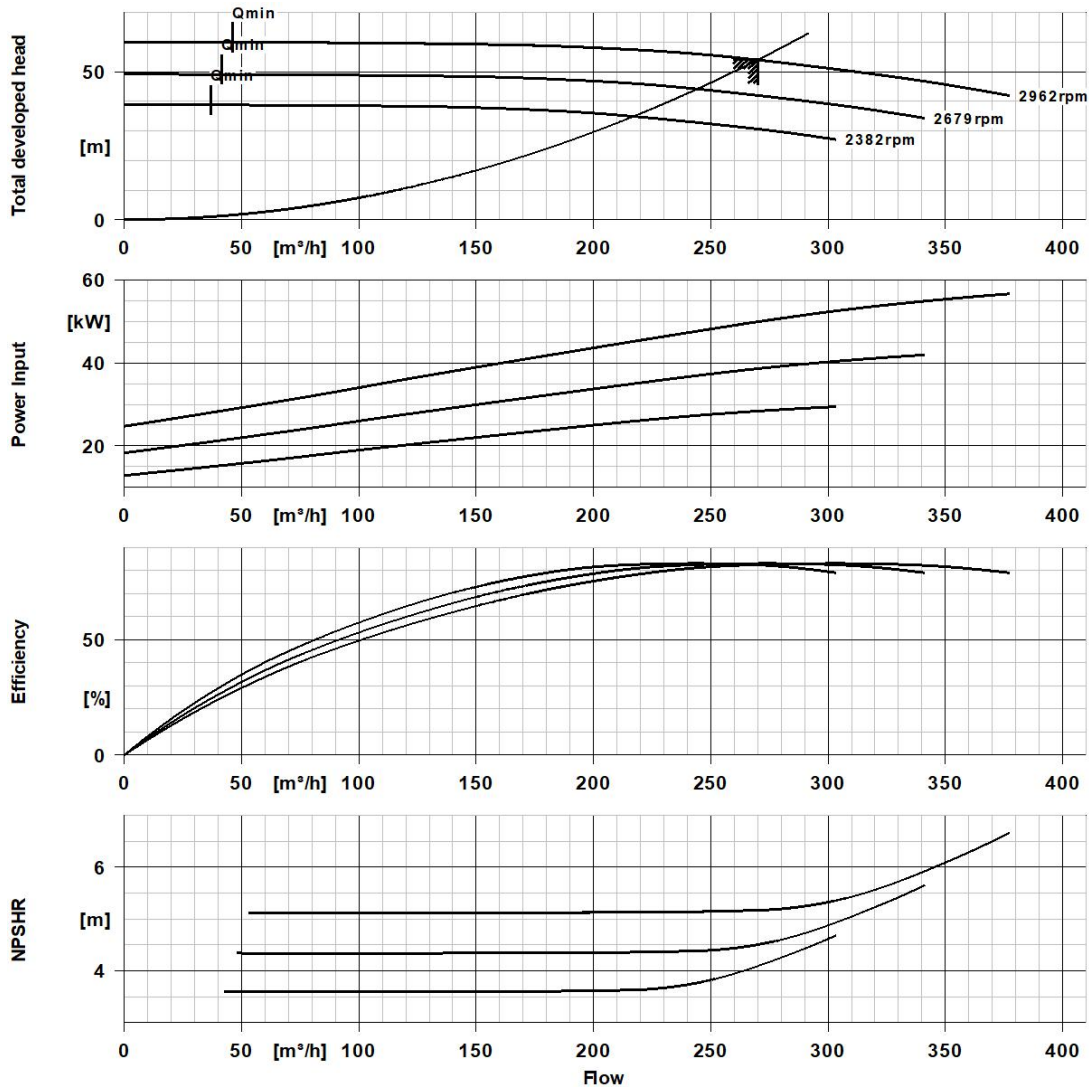
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Curve Data

Pump speed	2,962 1/min	Efficiency Pump	82.7 %
Density Fluid handled	1,041 kg/m ³	Minimum efficiency index MEI	0.7
Kinematic viscosity Fluid handled	11.5 mm ² /s	Maximum power input at duty point	50 kW
Flow rate	270 m ³ /h	NPSH required	5.17 m
Head	54 m	Hydraulic impeller diameter	209.4 mm
		Hydraulic calculation according to standard/class	EN ISO 9906 Class 3B

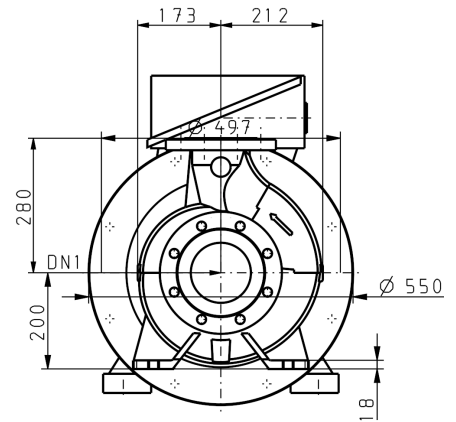
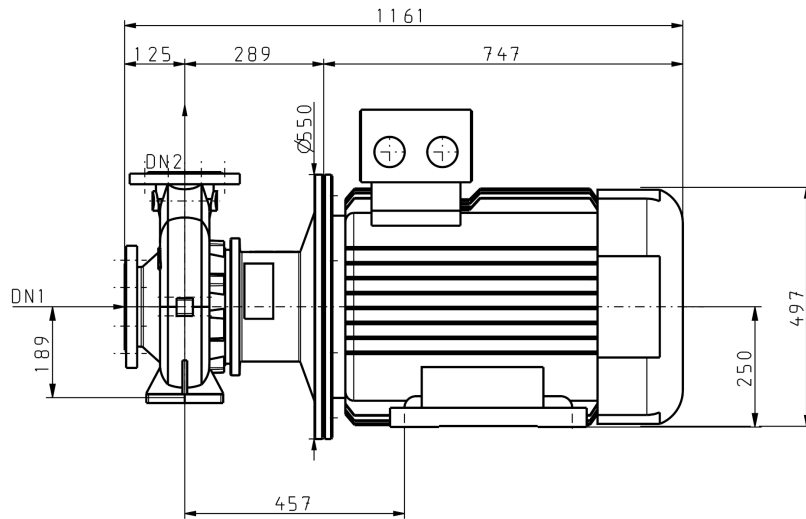
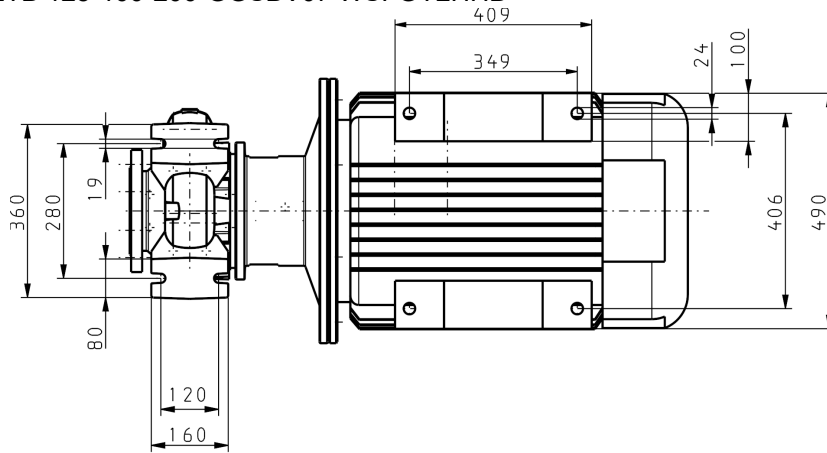
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Curve Data

Density Fluid handled	1,041 kg/m^3	Minimum efficiency index MEI	0.7
Kinematic viscosity Fluid handled	11.5 mm^2/s	Hydraulic impeller diameter	209.4 mm
Flow rate	270 m^3/h	Head	54 m

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Drawing is not to scale.

Dimensions are given in mm

Motor

Motor manufacturer	Siemens
Motor size	250M
Rated power Motor	55 kW
Number of motor poles	2
Rated speed Motor	2,975 1/min
Terminal box position of motor (looking at the motor shaft)	360 °

Connections

Nominal diameter Suction nozzle	DN 125
Suction flange bolt hole pattern as per standard	EN1092-2
Nominal diameter Discharge nozzle	DN 100
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	99.3 kg
Total weight Drive	385 kg
Total weight Pump set	484.3 kg

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Connect pipelines stress-free

Dimensional tolerances for shaft axis height: DIN 747

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

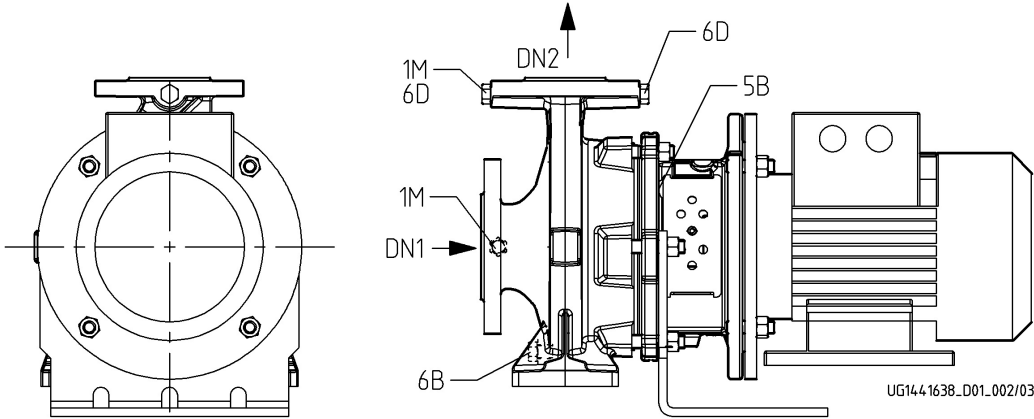
Connection dimensions for pumps: EN735

Dimensions without tolerances - welded parts: ISO 13920-B

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

Plan for additional connections see extra drawing

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Connections

6B Fluid Drain	G 1/2	Drilled and plugged
6D Fluid Filling and venting	G 1/2	Drilled and plugged
5B Venting and drain	G 1/4	Drilled and plugged

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