



End Suction Volute Pump

Type GSS

APPLICATIONS

GENERAL INDUSTRY

- **Semiconductor industry**
 - Pure water
- **Food industry**
 - General water (Cooling water, recycling water)
 - General water (Filtered water)
 - CIP (Caustic soda)
- **Pulp and paper industry**
 - White water (Pulp concentration below 0.3%)
- **Automobile industry**
 - Water (without slurry)
 - Detergent (without slurry)
- **Steel industry, non-ferrous metals industry**
 - Coolant
 - Cooling water
- **Garbage incineration**
 - Cooling water
 - Deaerator
 - Condensate water

FEATURES

ENERGY-SAVING DESIGN

- World top class pump efficiency achieved.
- Major improvement over our previous models by hydro parts designed using our proprietary 3D inverse design technology.
- Higher efficiency means lower energy consumption and motor output, and more compact size.

SIMPLE MAINTENANCE

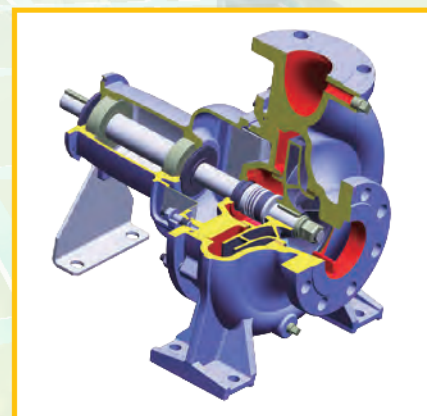
- Back pull-out structure enables disassembly and inspection without removal of suction and discharge piping.
- Shield bearings eliminate need for adding or exchanging lubricating oil.
- Shaft seal water injection piping not required for the standard application.
- Air-bleeding not required.
- Simplified bearings and shaft seal enable easy assembly.

PUMP SPECIFICATIONS

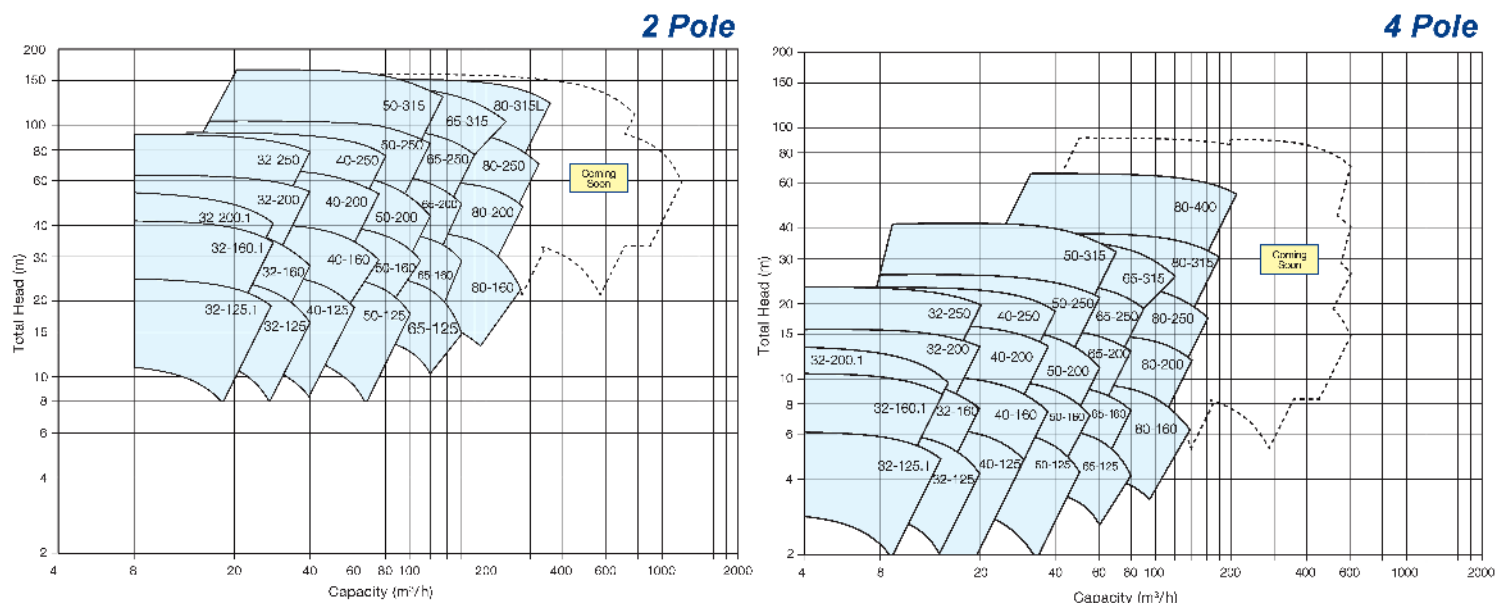
- Maximum operating pressure: 25 bar
- Liquid temperature range expansion: -25°C to 140°C
- Compatible with multiple flange standards.
- Able to meet customer specifications with many combinations of shaft seals and materials.

INTERNATIONAL STANDARDS

- Pump dimensions adopt EN733
- Mechanical seal adopts EN12756
- Bearing cover plate fitted in accordance with EN294.



PERFORMANCE CHART



SPECIFICATIONS

Casing Material SCS13

Description		Standard 2 poles/4 poles	Optional 2 poles/4 poles
Liquid	Temperature	-10°C -120°C	-25°C -140°C
	Density	To be discussed each time	-
	Viscosity		
Max. Operating Pressure		Up to 16bar (1.6MPa) for standard flange DIN-PN16	Up to 14bar (1.4MPa) for standard flange JIS10K
Construction	Impeller	Closed	-
	Shaft seal	Mechanical Seal	Mechanical Seal *Ask Gland Packing P#6502L
	Flushing	N/A	Self/External
	Bearing	Sealed ball bearing (grease lubricated)	-
Flange Standard		EN1092-1	JIS B 2220
Material	Casing	SCS13	SCS14A
	Impeller	SCS13	SCS14A
	Shaft	SUS329J3L *1	-
	Casing ring	SUS316	-
	Shaft sleeve	N/A	SUS304/316
	O-ring	FKM	EPDM

*1. Liquid side
JIS: Japanese Industrial Standard

General Description

Capacities	To 1300 m³/hr
Heads	To 150 m
Liquid temperatures	-10°C to 140°C
Max. working pressures	Up to 25Bar (2.5MPa)
Materials	Casing: Stainless steel Impeller: Stainless steel
Standards	EN733
Rotation	Clockwise viewed from coupling end

SPECIFICATIONS

Design Details

Features

- Horizontal foot mounting
- Back pull-out design
- Single-stage
- Radially split volute casing

Applicable Flange Standard

- EN PN16
- EN PN25
- JIS 10K
- JIS 20K

Impeller Type

- Closed, single suction type and balancing holes to reduce axial thrust

Shaft Seal

- Gland packing
- Single mechanical seal based upon DIN24960 (Conical type)
- Single mechanical seal (Cylindrical type)
- Double mechanical seal (Cylindrical type)

Bearings And Lubrication

- Shield ball bearing (Grease lubrication)

PAINTING

1. Outer Surface

• Standard up to 120 °C

Primer coating	Cationic electro-deposition painting (Cation)
Final coating	Alkyd resin based enamel
Finish color	Munsell 2.5PB4/2 (Dark gray)

• Standard above to 120 °C up to 140 °C

Primer coating	Cationic electro-deposition painting (Cation)
Final coating	Non painting
Finish color	Black

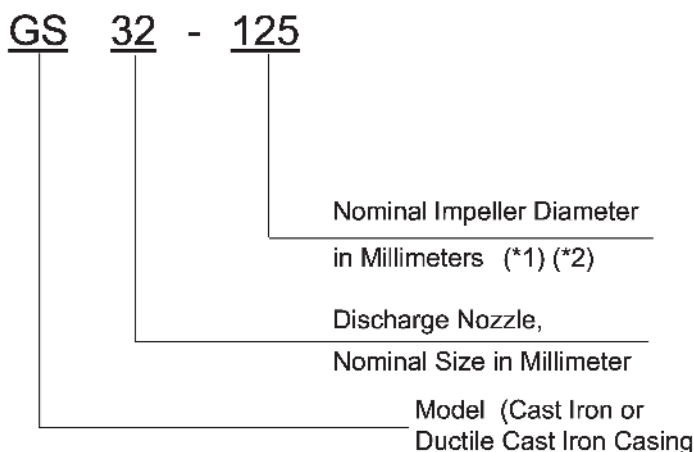
2. Inner Surface

• Standard up to 140 °C

Primer coating	Cationic electro-deposition painting (Cation)
Final coating	Non painting
Finish color	Black

SPECIFICATION - Designation

The following designation is system according to EN733.

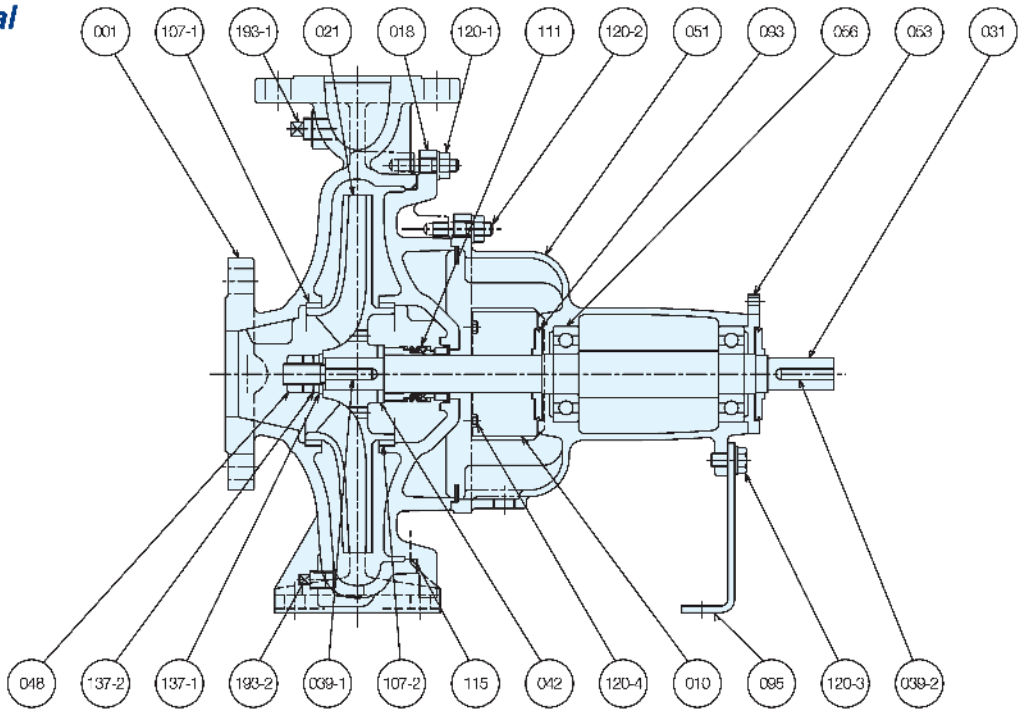


(*1) The letter "L" following the impeller classification code indicates different bearing designs. To give an example, GS80-315 and GS80-315L have different bearing designs and shaft size.

(*2) The letter ".1" following the impeller classification code indicates different casing and impeller designs. To give an example, GS32-125 and GS32-125.1 have different casing and impeller designs from one another.

SECTIONAL VIEW

Typical
Mechanical
Seal

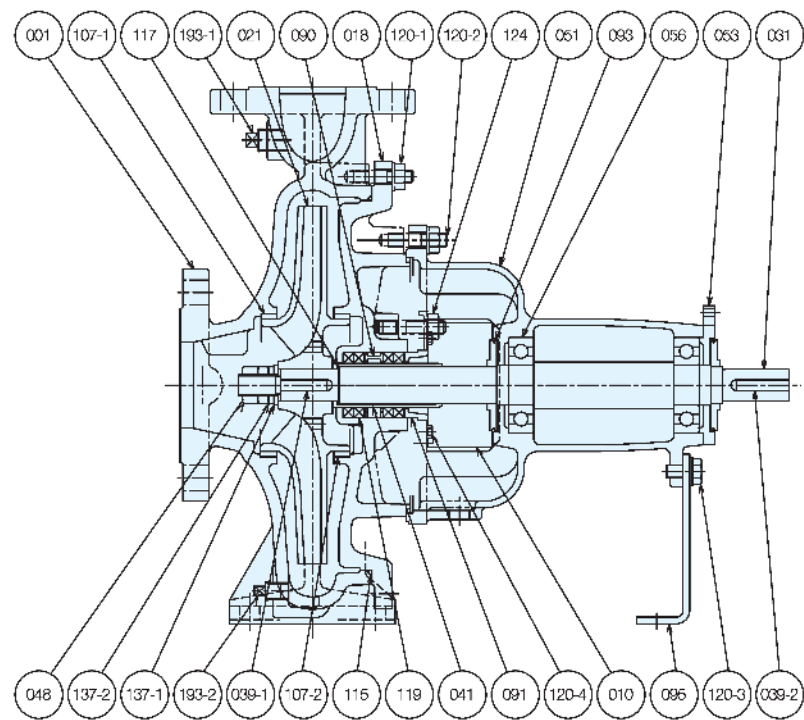


No.	Part name	Qty	Material (Casing Material FC Cast Iron)		Material (Casing Material Ductile Cast Iron)		Material (Casing Material Stainless Steel)	
001	CASING	1	FC250	EN GJL 250(EN-JL1040)	FCD400	EN GJS 400 15(5.3106)	SCS13	GX5CrNi19 10(1.4308)
010	PROTECTOR	2	SPCC	Hot-rolled mild steel	SPCC	Hot-rolled mild steel	SPCC	Hot-rolled mild steel
018	CASING COVER	1	FC250	EN-GJL-250(EN-JL1040)	FCD400	EN-GJS-400-15(5.3106)	SCS13	GX5CrNi19-10(1.4308)
021	IMPELLER	1	FC200 or FCD400	EN-GJL-200(EN-JL1030) or EN-GJS-400-15(5.3106)	FC200 or FCD400	EN-GJL-200(EN-JL1030) or EN-GJS-400-15(5.3106)	SCS13	GX5CrNi19-10(1.4308)
031	SHAFT	1	SUS431 *1	X1/CrNi18-2(1.4067) *1	SUS431 *1	X1/CrNi18-2(1.4067) *1	SUS329J3L *1	X2CrNiMoN22-5-3(1.4462) *1
039-1	KEY	1	SUS420J2	X30Cr13(1.4028)	SUS420J2	X30Cr13(1.4028)	SUS316	X5CrNiMo17-12-2(1.4401)
039-2	KEY	1	S50C	C50(1.0540)	S50C	C50(1.0540)	S50C	C50(1.0540)
042	SPACER	1	SUS304	X5CrNi18-10(1.4301)	SUS304	X5CrNi18-10(1.4301)	SUS304	X5CrNi18-10(1.4301)
048	IMPELLER NUT	1	SUS304	X5CrNi18-10(1.4301)	SUS304	X5CrNi18-10(1.4301)	SUS304	X5CrNi18-10(1.4301)
051	BEARING HOUSING	1	FC150	EN-GJL-150(EN-JL1020)	FC150	EN-GJL-150(EN-JL1020)	FC150	EN-GJL-150(EN-JL1020)
053	BEARING COVER	1	FC150	EN-GJL-150(EN-JL1020)	FC150	EN-GJL-150(EN-JL1020)	FC150	EN-GJL-150(EN-JL1020)
056	BALL BEARING	2	-	-	-	-	-	-
093	DEFLECTOR	2	EPDM	Rubber/EPDM	EPDM	Rubber/EPDM	EPDM	Rubber/EPDM
095	STAY	1	SPHC	Hot-rolled mild steel	SPHC	Hot-rolled mild steel	SPHC	Hot-rolled mild steel
107-1	CASING RING	1	CAC406	CuSn5Zn5Pb5(CC491K)	CAC406	CuSn5Zn5Pb5(CC491K)	SUS316	X5CrNiMo17-12-2(1.4401)
107-2	CASING RING	1	CAC406	CuSn5Zn5Pb5(CC491K)	CAC406	CuSn5Zn5Pb5(CC491K)	SUS316	X5CrNiMo17-12-2(1.4401)
111	MECHANICAL SEAL	1	-	-	-	-	-	-
115	O-RING	1	NBR	Rubber/NBR	NBR	Rubber/NBR	FKM	Rubber/FKM
120-1	BOLT	-	SS400	Rolled steel	SS400	Rolled steel	SS400	Rolled steel
120-2	BOLT	6	SS400	Rolled steel	SS400	Rolled steel	SS400	Rolled steel
120-3	BOLT	1	SS400	Rolled steel	SS400	Rolled steel	SS400	Rolled steel
120-4	BOLT	4	SS400	Rolled steel	SS400	Rolled steel	SS400	Rolled steel
137-1	PLAIN WASHER	1	SUS304	X5CrNi18-10(1.4301)	SUS304	X5CrNi18-10(1.4301)	SUS304	X5CrNi18-10(1.4301)
137-2	SPRING LOCK WASHER	1	SUS304	X5CrNi18-10(1.4301)	SUS304	X5CrNi18-10(1.4301)	SUS304	X5CrNi18-10(1.4301)
193-1	PLUG	1	SS400	Rolled steel	SS400	Rolled steel	SUS304	X5CrNi18-10(1.4301)
193-2	PLUG	1	SS400	Rolled steel	SS400	Rolled steel	SUS304	X5CrNi18-10(1.4301)

*1 Liquid side

SECTIONAL VIEW

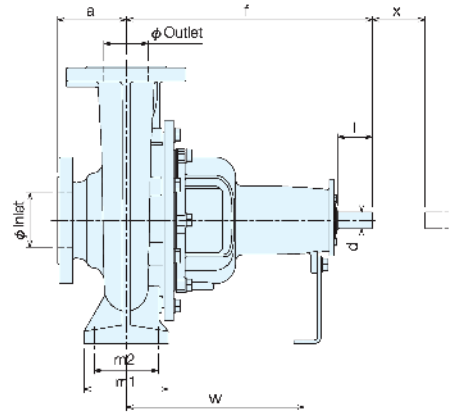
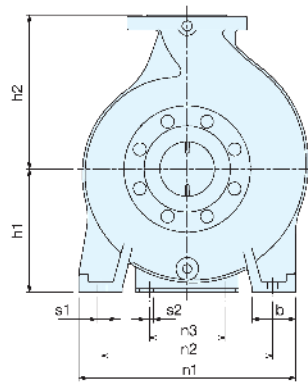
Typical
Gland
Packing



No.	Part name	Qty	Material (Casing Material FC Cast Iron)		Material (Casing Material Ductile Cast Iron)		Material (Casing Material Stainless Steel)	
001	CASING	1	FC250	EN-GJL-250(EN-JL1040)	FCD400	EN-GJS-400-15(5.3106)	SCS13	GX5CrNi19-10(1.4308)
010	PROTECTOR	2	SPCC	Hot-rolled mild steel	SPCC	Hot-rolled mild steel	SPCC	Hot-rolled mild steel
018	CASING COVER	1	FC250	EN-GJL-250(EN-JL1040)	FCD400	EN-GJS-400-15(5.3106)	SCS13	GX5CrNi19-10(1.4308)
021	IMPELLER	1	FC200 or FCD100	EN-GJL-200(EN-JL1030) or EN-GJS-400-15(5.3106)	FC200 or FCD100	EN-GJL-200(EN-JL1030) or EN-GJS-400-15(5.3106)	SCS13	GX5CrNi19-10(1.4308)
031	SHAFT	1	SUS431 *1	X17CrNi16-2(1.4057) *1	SUS431 *1	X17CrNi16-2(1.4057) *1	SUS329J3L *1	X2CrNiMoN22-5-3(1.4462) *1
039-1	KEY	1	SUS420J2	X30Cr13(1.4028)	SUS42GJ2	X30Cr13(1.4028)	SUS316	X5CrNiMo17-12-2(1.4401)
039-2	KEY	1	S50C	C50(1.0540)	S50C	C50(1.0540)	S50C	C50(1.0540)
041	SHAFT SLEEVE	1	SUS304	X5CrNi18-10(1.4301)	SUS304	X5CrNi18-10(1.4301)	SUS304	X5CrNi18-10(1.4301)
048	IMPELLER NUT	1	SUS304	X5CrNi18-10(1.4301)	SUS304	X5CrNi18-10(1.4301)	SUS304	X5CrNi18-10(1.4301)
051	BEARING HOUSING	1	FC150	EN-GJL-150(EN-JL1020)	FC150	EN-GJL-150(EN-JL1020)	FC150	EN-GJL-150(EN-JL1020)
053	BEARING COVER	1	FC150	EN-GJL-150(EN-JL1020)	FC150	EN-GJL-150(EN-JL1020)	FC150	EN-GJL-150(EN-JL1020)
056	BALL BEARING	2	-	-	-	-	-	-
090	INTERFERN RING	1	SCS13	GX5CrNi19-10(1.4308)	SCS13	GX5CrNi19-10(1.4308)	SUS316	X5CrNiMo17-12-2(1.4401)
091	GLAND	1	SCS13	GX5CrNi19-10(1.4308)	SCS13	GX5CrNi19-10(1.4308)	SUS316	X5CrNiMo17-12-2(1.4401)
093	DEFLECTOR	2	EPDM	Rubber/EPDM	EPDM	Rubber/EPDM	EPDM	Rubber/EPDM
095	STAY	1	SPHC	Hot-rolled mild steel	SPHC	Hot-rolled mild steel	SPHC	Hot-rolled mild steel
107-1	CASING RING	1	CAC406	CuSn5Zn5Pb5(CC491K)	CAC406	CuSn5Zn5Pb5(CC491K)	SCS14A	GX5CrNiMo19-11-2(1.4408)
107-2	CASING RING	1	CAC406	CuSn5Zn5Pb5(CC491K)	CAC406	CuSn5Zn5Pb5(CC491K)	SCS14A	GX5CrNiMo19-11-2(1.4408)
115	O-RING	1	NBR	Rubber/NBR	NBR	Rubber/NBR	FKM	Rubber/FKM
117	GASKET	1	V#6500AC	V#6500AC	V#6500AC	V#6500AC	V#6500AC	V#6500AC
119	GLAND PACKING	4	P#6502I	P#6502I	P#6502I	P#6502I	P#6502I	P#6502I
120-1	BOLT	-	SS400	Rollad steel	SS400	Rollad steel	SS400	Rollad steel
120-2	BOLT	6	SS400	Rollad steel	SS400	Rollad steel	SS400	Rollad steel
120-3	BOLT	1	SS400	Rollad steel	SS400	Rollad steel	SS400	Rollad steel
120-4	BOLT	4	SS400	Rollad steel	SS400	Rollad steel	SS400	Rollad steel
124	GLAND BOLT	-	SUS304	X5CrNi18-10(1.4301)	SUS304	X5CrNi18-10(1.4301)	SUS304	X5CrNi18-10(1.4301)
137-1	PLAIN WASHER	1	SUS304	X5CrNi18-10(1.4301)	SUS304	X5CrNi18-10(1.4301)	SUS304	X5CrNi18-10(1.4301)
137-2	SPRING LOCK WASHER	1	SUS304	X5CrNi18-10(1.4301)	SUS304	X5CrNi18-10(1.4301)	SUS304	X5CrNi18-10(1.4301)
193-1	PLUG	1	SS400	Rollad steel	SS400	Rollad steel	SUS304	X5CrNi18-10(1.4301)
193-2	PLUG	1	SS400	Rollad steel	SS400	Rollad steel	SUS304	X5CrNi18-10(1.4301)

*1 Liquid side

DIMENSION



MODEL	Inlet (mm)	Outlet (mm)	Pump dimensions (mm)				Foot dimensions (mm)							Holes for bolts (mm)		Shaft end dimensions (mm)			Mass(kg)	
			a	f	h1	h2	b	m1	m2	n1	n2	n3	W	s1	s2	d	l	X	FC/FCO	SCS
32-125.1	50	32	80	360	112	140				190	140								28	30
32-160.1					132	160	50	100	70	240	190	110	260	M12	M12	24	50	100	29	28
32-200.1					160	180													39	32
32-125	50	32	80	360	112	140				190	140								28	27
32-160					132	160	50	100	70	240	190	110	260	M12	M12	24	50	100	29	28
32-200					160	180													39	37
32-250			100		180	225	65	125	95	320	250								46	46
40-125	65	40	80		112	140				210	160								30	29
40-160					132	160	50	100	70	240	190								31	30
40-200					160	180				265	212	110	260	M12	M12	24	50	100	41	40
40-250			100		180	225				320	250								48	48
40-315			125	470	225	250	65	125	95	345	280					32	80		82	83
50-125	65	50			132	160				240	190								33	34
50-160					160	180	50	100	70	265	212	110	260	M12	M12	24	50	100	44	43
50-200			100	360	180	200				320	250								50	49
50-250					180	225	65	125	95	320	250								50	49
50-315			125	470	225	280				345	280		340			32	80		86	86
65-125	80	65			160	180				280	212								37	37
65-160					180	200	65	125	95	280	212		260	M12		24	50	100	41	43
65-200			100	360	180	225				320	250	110		M12	M12				47	45
65-250					200	250				360	280					32	80	140	73	72
65-315			125	470	225	280	80	160	120	400	315		340	M16		32	80		90	89
80-160	100	80			180	225	65	125	95	320	250		260	M12	M12	24	50		46	48
80-200					180	250				345	280								67	67
80-250			125	470	200	280				400	315	110	340			32	80	140	77	77
80-315					250	315	80	160	120	400	315			M16	M12				101	102
80-315L					250	315	80	160	120	400	315					32	80		112	112
80-400			530		280	355				435	355		370			42	110		162	160
100-160	125	100			200	250				360	280					32	80		91	90
100-200			125	470									340						103	109
100-250						280										32	80		108	106
100-250L					530	225	80	160	120			110	370	M16	M12	42	110	140	120	118
100-315			140	470						400	315		340			32	80		109	107
100-315L					250	315													134	132
100-400	150	125			530	280	100	200	150	500	400		370	M20		42	110		189	164
125-200					470	315							340			32	80		120	119
125-250						355	80	160	120	400	315	110		M16					131	129
125-250L																42	110	140	148	145
125-315			530		280								370						176	170
125-400					315	400	100	200	150	500	400			M20					218	202
125-500	200	150	180	670	375	450				550	450	140	500		M16	48			365	361
150-200					470	280				500	400		340			32	80		154	157
150-250						375													171	163
150-315			180	530	280	375	100	200	150			110	370	M12		42		140	225	214
150-400					315	450				550	450			M20			110		339	341
150-400L																48			363	365
150-500	250	200			670	375						140	500	M16	60			180	491	504
200-400			180	670	385	560	100	315	250	660	560	140	500	M20		60	110	180	508	-
200-500			200	820	435	630						160	630	M24	M16	75	125		645	-

* Dimensional details are provided for reference only.

* All specifications are subject to change without prior notice.



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Authorised dealer: