



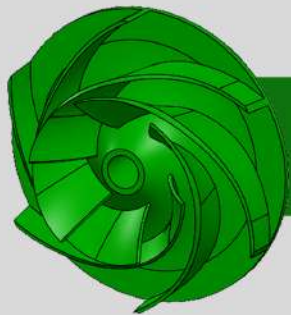
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CEN-O

Non Clogging Process Pump



Whatever fluids you pump, Torishima has the background and technology to help you meet your needs effectively and efficiently with quality designed and built pumps.



IMPELLER

- Semi open, radial flow impeller fitted with protective wear ring
- Balanced hydraulically
- Trimming of impeller is possible



GENERAL

Torishima CEN-O is Semi Open Impeller Pump, designed to meet the need of industries of waste water, sugar and food, palm oil, iron and steel, pulp and paper. Combined the advantages of open impeller centrifugal pump with those of the centrifugal pump in back pull-out design. The maintenance of which is greatly simplified built for rugged duty, particularly where the fluid is corrosive, abrasive, or dirty, or where continuous, low down-time operation is essential.

DESIGN

- End suction volute pumps with vertical centerline discharge
- Back Pull Out (BPO) design allows the removal all rotating elements without disturbing the casing, piping/motor

APPLICATION

- Waste Water Industry : Clarified or mechanically filtered sewage and effluent, screen water, activated sludge.
- Sugar Industry : Drainage of muddy liquids, milk of lime, mixed juice, concentrated juice.
- Palm Oil Mills : Process pumps.
- Civil Engineering : Drainage of muddy water.
- Chemical Industry : Pumping chemically corrosive liquids, chemical drainage and medium containing coarse mixtures which can't be handled by normal type centrifugal pump.
- Paper Industry : Pulp digestion liquor, green liquor, white liquor, concentrated black liquor, bleaching

BEARINGS

- Oil lubricated bearing (see option)

FLANGES

- JIS 10 K, ANSI, PN
- Optional with other flanges connection standard

SHAFT SEALS

- Strong stuffing boxes
- Single acting mechanical seal are available

DRIVE

Electric motors and engines are also available on request

PUMP SPECIFICATION

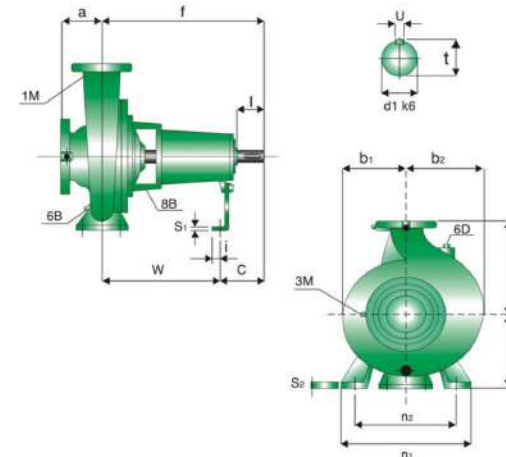
SPECIFICATION	STANDARD	OPTION *
Capacity	Up to 620 m ³ /h (170l/s)	
Total Head	Up to 100 m	
Product Temperature	-10 °C to 100 °C	-30 °C to 120 °C
Pump Discharge Pressure	Up to 10 bar	
Pump Size	32 mm to 150 mm	
Volute Casing	Cast Iron FC250	Ductile FCD400 / Bronze BC6 / SCS 13 / SCS14 / SS Duplex / Carbon Steel
Casing Cover	Cast Iron FC250	Ductile FCD400 / Bronze BC6 / SCS 13 / SCS14 / SS Duplex / Carbon Steel
Bearing Housing	Cast Iron FC250	
Impeller	Cast Iron FC200	Ductile FCD400 / Bronze BC6 / SCS 13 / SCS14
Shaft	Martensitic Steel SUS420J2	SUS316/SUS304
Casing Wear Ring	Cast Iron FC200	Bronze BC6 / SCS13 / SCS14
Impeller Wear Ring	Cast Iron FC200	Bronze BC6 / SCS13 / SCS14
Shaft Protection Sleeve	Martensitic Steel SUS420J2	Austenitic Steel SUS304 / 316
Seal	Gland Packing	Mechanical Seal
Ball Bearing	Deep Groove	Open type
Lubrication	Grease	Oil

*all material combination within above mentioned material specification is possible

OUTLINE DRAWING

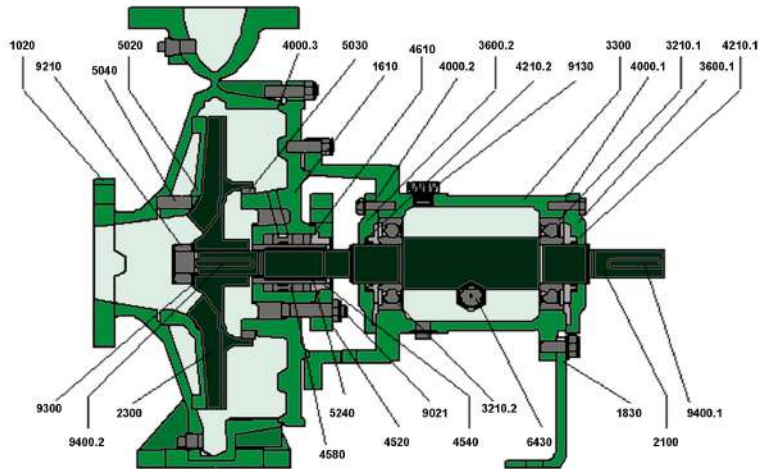
AUXILIARY CONNECTION

SYMBOL	DESIGNATION
1M	Pressure Measurement Instrument
3M	Pressure Measurement Instrument
6B	Casing Drain
6D	Printing and Venting
8B	Leakage Drain
10E	Sealing Liquid Inlet
11E	Flushing Liquid Inlet



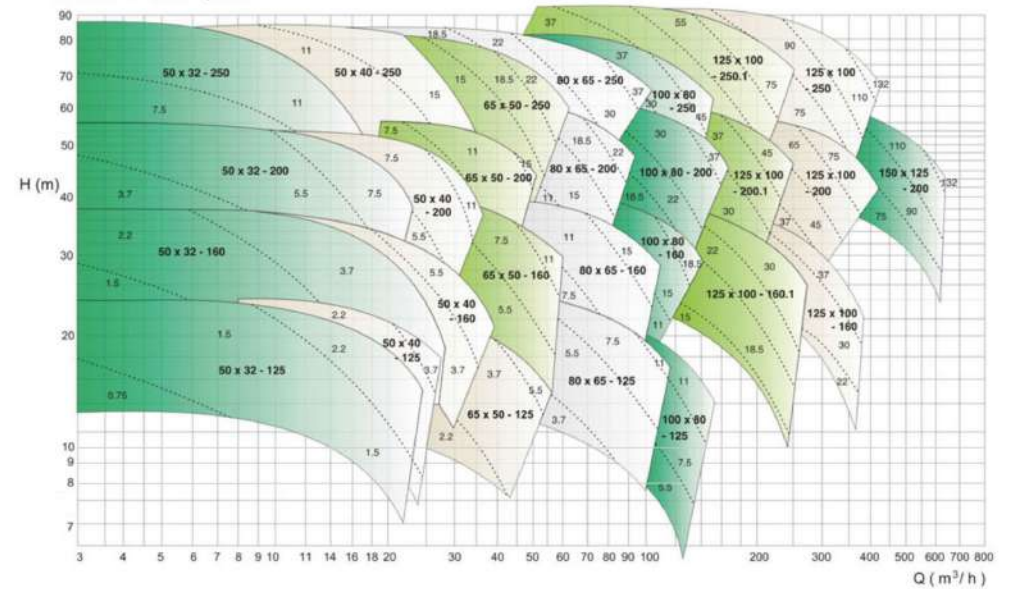
PUMP SIZE	1M	6B	8B	10E
	3M	6D		11E
DIMENSION				
50x32-160				
50x32-200				
50x40-200				
50x40250				
50x40-315.1				
65x50-160				
65x50-200				
65x50-250				
65x50-315.1				
80x65-160				
80x65-200				
80x65-250				
80x65-315.1				
100x80-125				
100x80-160				
100x80-200				
100x80-250				
100x80-315.1	PT 3/8			
100x80-400.1				
125x100-160				
125x100-200				
125x100-200.1	PT 1/2			
125x100-250	PT 3/8			
125x100-250.1	PT 1/2			
125x100-315	PT 3/8			
125x100-400				
150x125-200				

LIST OF COMPONENT

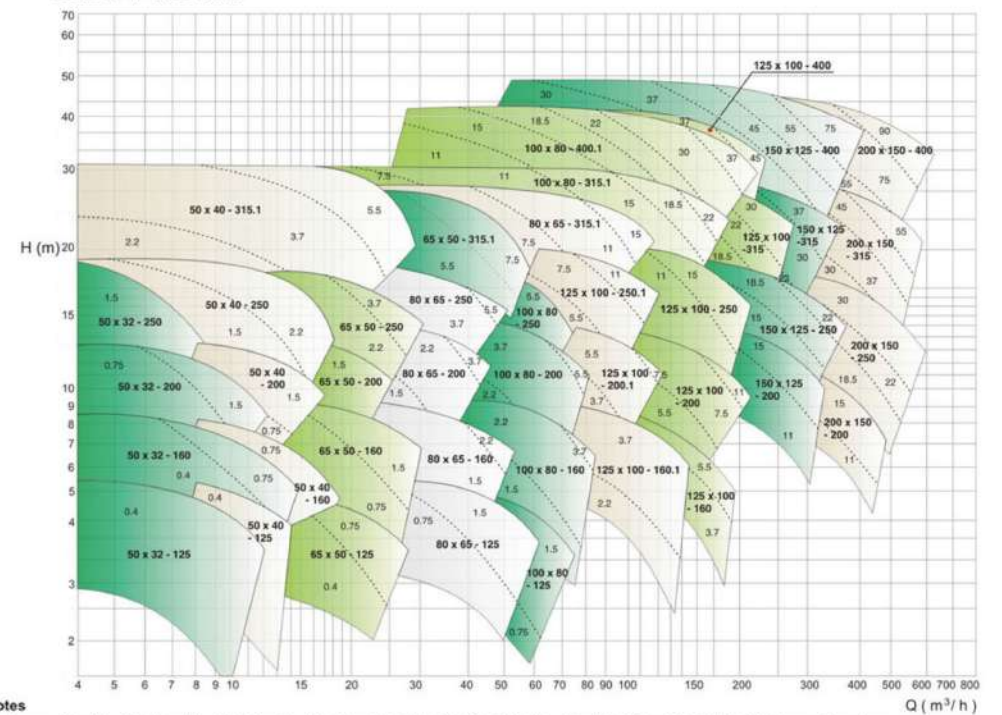


PART No	PART DESIGNATION	MATERIAL	Pcs	PART No.	PART DESIGNATION	MATERIAL	Pcs
1020	VOLUTE CASING	FC 250	1	4520	GLAND	FC 200	1
1610	CASING COVER	FC 250	1	4540	GLAND BUSHING	FC 200	1
1830	SUPPORT FOOT	SS 400	1	4580	LANTERN RING	PLASTIC	1
2100	SHAFT	SUS 420J2	1	4610	GLAND PACKING	CARBONIZED FIBER	3
2300	IMPELLER	FC 200	1	5020	FRONT WEAR PALTE	FC 200	1
3210.1	BALL BEARING	No. 6305 C3	1	5030	IMPELLER WEARING RING	FC 200	1
3210.2	BALL BEARING	No. 6305 C3	1	5240	PACKING SLEEVE	SUS 420J2	1
3300	BEARING HOUSING	FC 250	1	6430	OIL LEVEL GAUGE	C3602BEHCr plated	
3600.1	BEARING COVER	ADC12	1	9021	GLAND BOLT	SUS 304	2
3600.2	BEARING COVER	ADC12	1	9040	HEX SOCKET SET SCREW	SUS 304	4
4000.1	GASKET	TOMBO 1630	1	9201	HEXAGONAL NUT	SS 400	6
4000.2	GASKET	TOMBO 1630	1	9300	SPRING WASHER	SUP4	1
4000.3	GASKET	TOMBO 1995	1	9130	PLUG	6NR	1
4210.1	OIL SEAL	JIS. G-35528	1	9400.1	KEY	S45C	1
4210.2	OIL SEAL	JIS. G-35528	1	9400.2	KEY	S45C	1

50Hz-2P n=2900 1/min



50Hz-4P n=1450 1/min



Notes

For types : 50 x 32 - 125, 50 x 32 - 250, 50 x 40 - 125, 50 x 40 - 160, 65 x 50 - 125, 80 x 65 - 125, 125 x 100 - 160.1 TGI does not produce.

