Long-shaft chopper pump MPTKL-I

The MPTKL-I is a long-shaft chopper pump designed to pump heavily contaminated liquids as well as liquids with a high solids content.

The motor is located outside the tank and is connected to the pump through a split shaft that runs in lifetime-lubricated roller bearings.

Tank depth 1-6.2 m.

All MPTKL-I pumps are equipped with a knife system at the pump inlet, ensuring trouble-free operation under conditions where many other pumps experience clogging issues.

APPLICATION EXAMPLES

- Waste water
- Sludge
- Liquids with high temperature
- Biogas plant – many applications
- Waste water and by-products in the food industry
- Pumping abrasive or highly viscous liquids
- .....and much more

PUMP RPM

1500 rpm
3000 rpm

MATERIAL OF CONSTRUCTION

Motor housing and oil chamber	Cast iron EN-GJL-250
Pump housing	Cast iron EN-GJL-250
Pump impeller	Cast iron EN-GJL-250 Cast iron EN-GJS-700-2 (optional) W1.4408/AISI316 (optional)
Pump shaft	Steel S355JR
Bolts	A4
Sealing system	Mechanical shaft seals: silicon carbide/silicon carbide
Knife system	Hardened steel W1.0038/S235JR W1.4404/AISI316 (optional)
Extended knife system	Hardened steel W1.0038 (optional) W1.4404/AISI316 (optional)
Oil type	15W-40 Vario HDX (with moisture detection)

SERVICE AND MAINTENANCE

Recommended service interval/oil change	Maximum 2,000 operating hours/minimum once a year
Motor	Lifetime lubricated bearings
Oil chamber	Periodic oil change

SURFACE TREATMENT

Machinery enamel: RAL 9005 (Jet Black)	Jet Black
2-component coating: RAL 7005 (Mouse Grey) (optional)	Mouse Grey

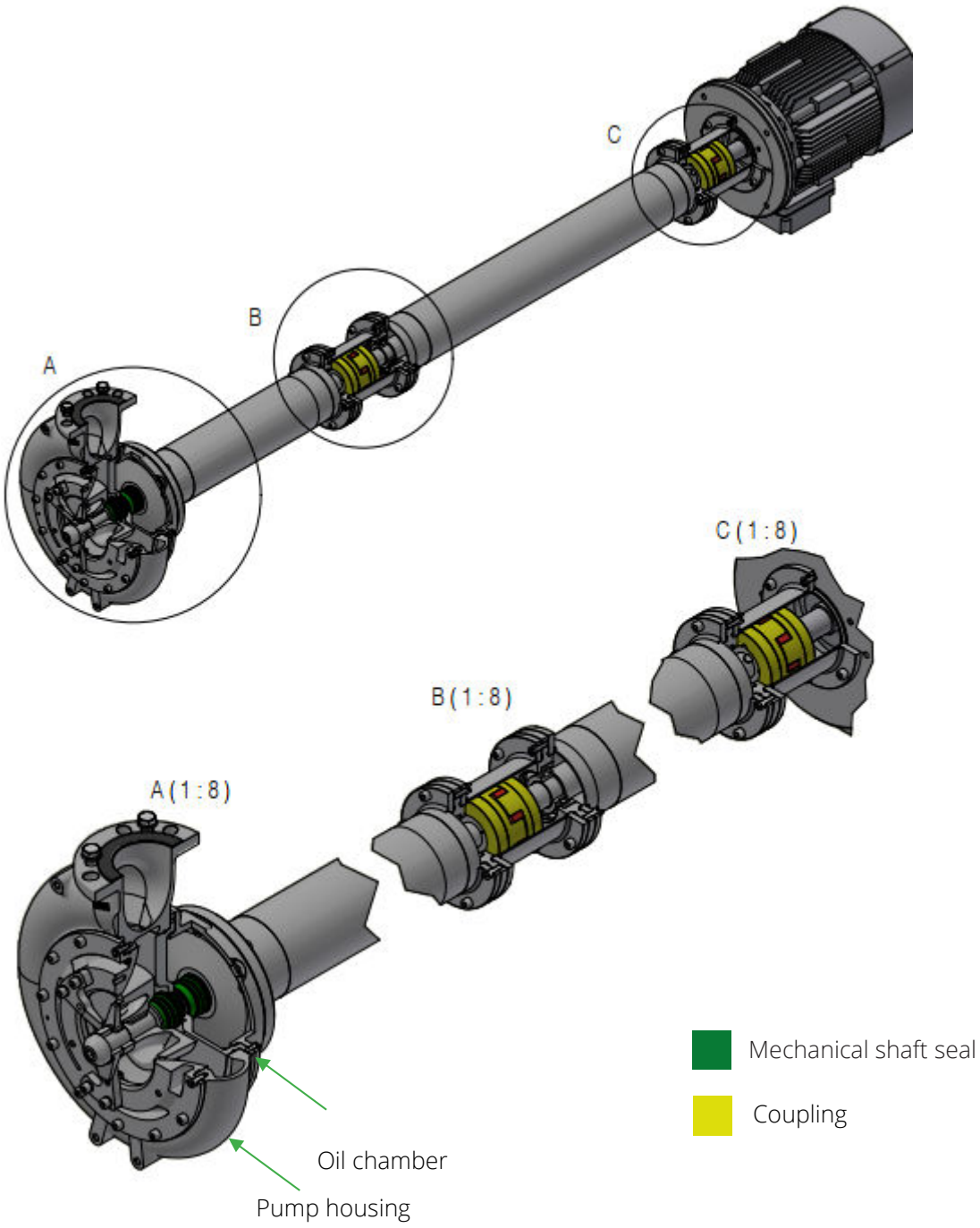
MONITORING FUNCTIONS

Thermistor
Moisture detection system (optional)

DESIGN

The open impeller design allows the chopper pump to pump liquids with high viscosity. For liquids containing abrasive particles, such as sand, Landia has developed special materials that significantly extend the pump's lifetime compared to a standard pump.

A large part of the MPTKL-I series can be supplied in acid-resistant steel for aggressive liquids with low or high pH.



ELECTRICAL DATA MPTKL-I

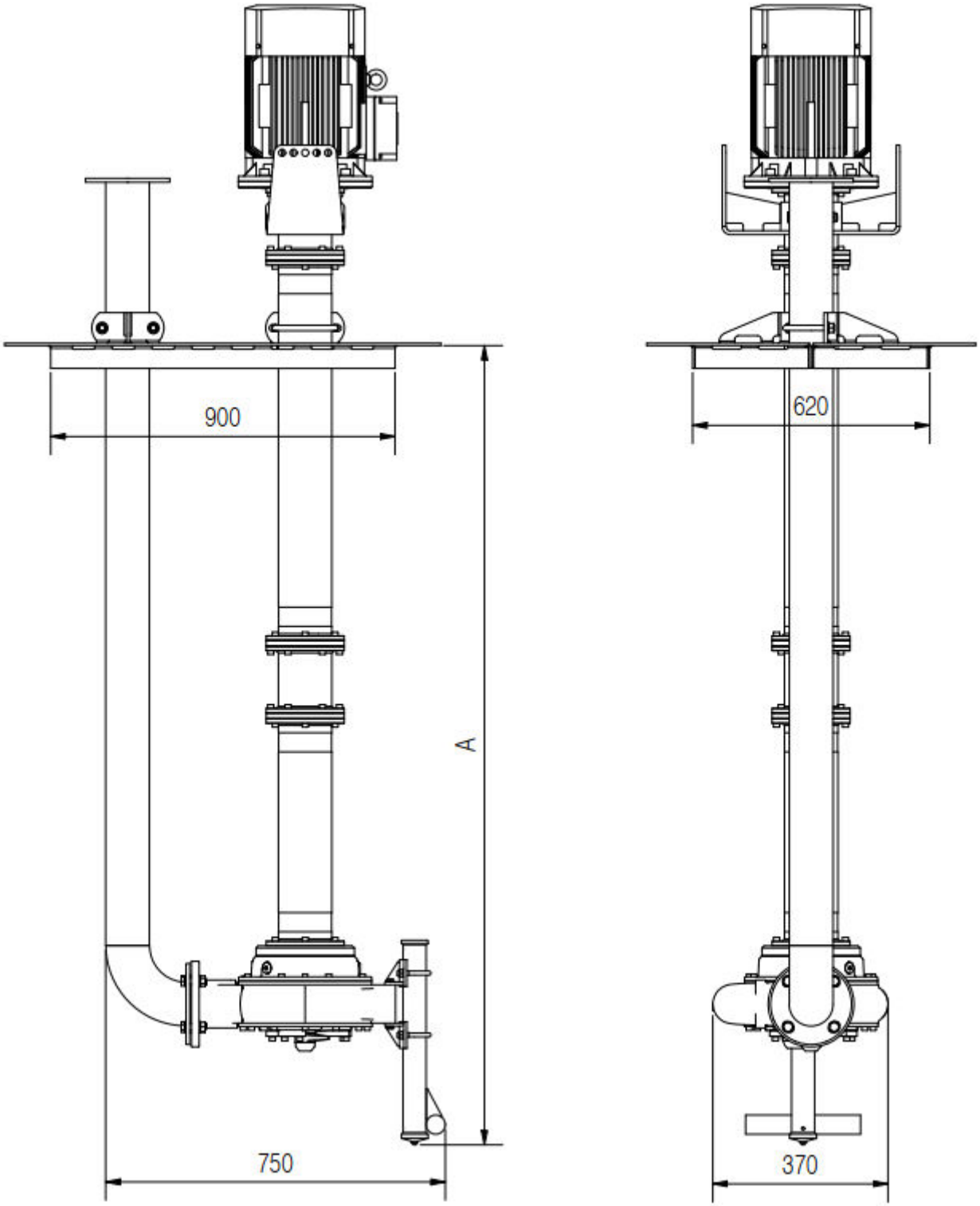
Motor type	3-phase AV motor
Nominal voltage	400 V
Minimum voltage allowed	360 V
Nominal frequency	50 Hz
Applicable for VFD operation	Yes
Ingress protection rating	IP 55
Insulation class	F

Model	Nominal power	Motor	Full load current (400 V)	Connection method	Start current (DOL)	cos phi	Efficiency
	[kW]	[rpm]	[A]	Y/Δ	[A]		[%]
Medium pressure							
MPTKL-I 80 5,5 kW-1500 rpm IE3	5,5	1480	12,0	Δ	119	0,73	91,0
MPTKL-I 105 11,0 kW-1500 rpm IE3	11,0	1475	21,0	Δ	158	0,83	91,4
MPTKL-I 105 18,5 kW-1500 rpm IE3	18,5	1475	34,5	Δ	238	0,84	92,7
MPTKL-I 105 22,0 kW-1500 rpm IE3	22,0	1480	40,5	Δ	308	0,84	93,0
High pressure							
MPTKL-I 80 18,5 kW-3000 rpm IE3	18,5	2960	32,0	Δ	294	0,90	92,4
MPTKL-I 80 22,0 kW-3000 rpm IE3	22,0	2975	37,5	Δ	334	0,91	92,7
MPTKL-I 80 30,0 kW-3000 rpm IE3	30,0	2965	52,5	Δ	451	0,88	93,3

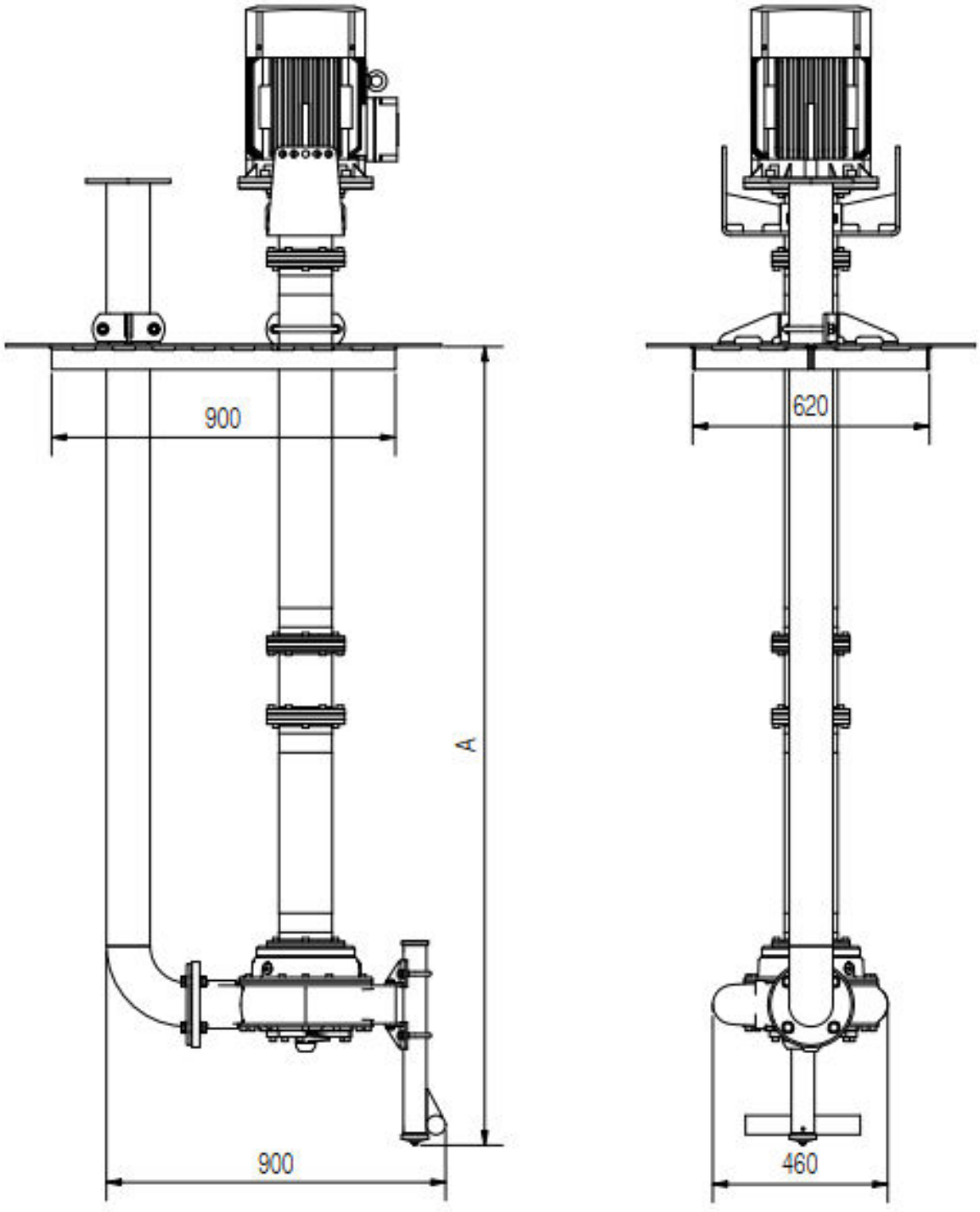
The individual motor sizes are available for tank depths ranging from 1.0 to 6.2 m with a length interval of 0.4 m.
See the table.

A measure Tank depth in meter
1,0 m
1,4 m
1,8 m
2,2 m
2,6 m
3,0 m
3,4 m
3,8 m
4,2 m
4,6 m
5,0 m
5,4 m
5,8 m
6,2 m

OVERALL DIMENSIONS MPTKL-I 80



OVERALL DIMENSIONS MPTKL-I 105



We reserve the right to make technical changes.