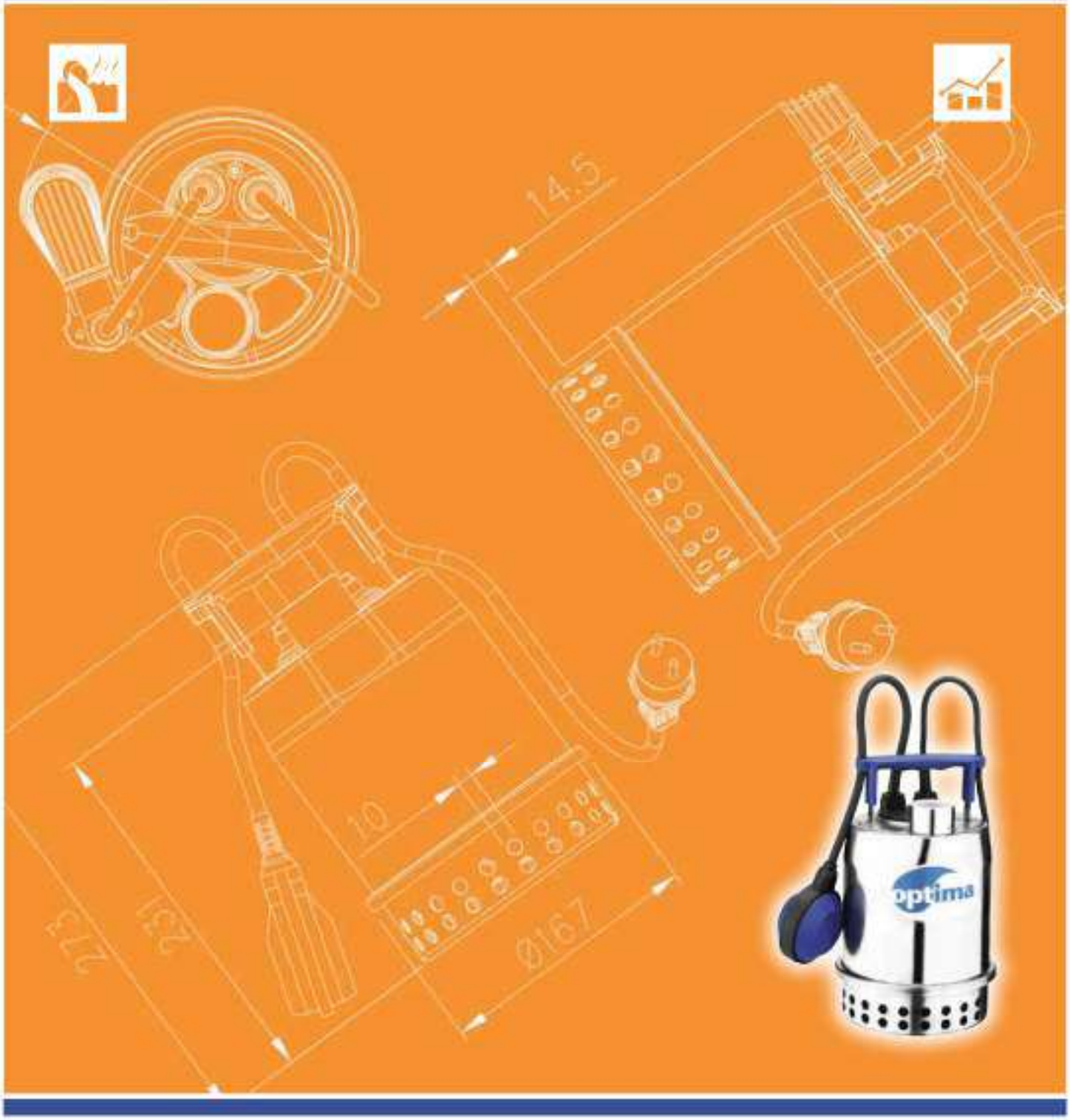
EBARA

Japanese Technology since 1912

OPTIMA

Data Book 50Hz



SPECIFICATION

50Hz

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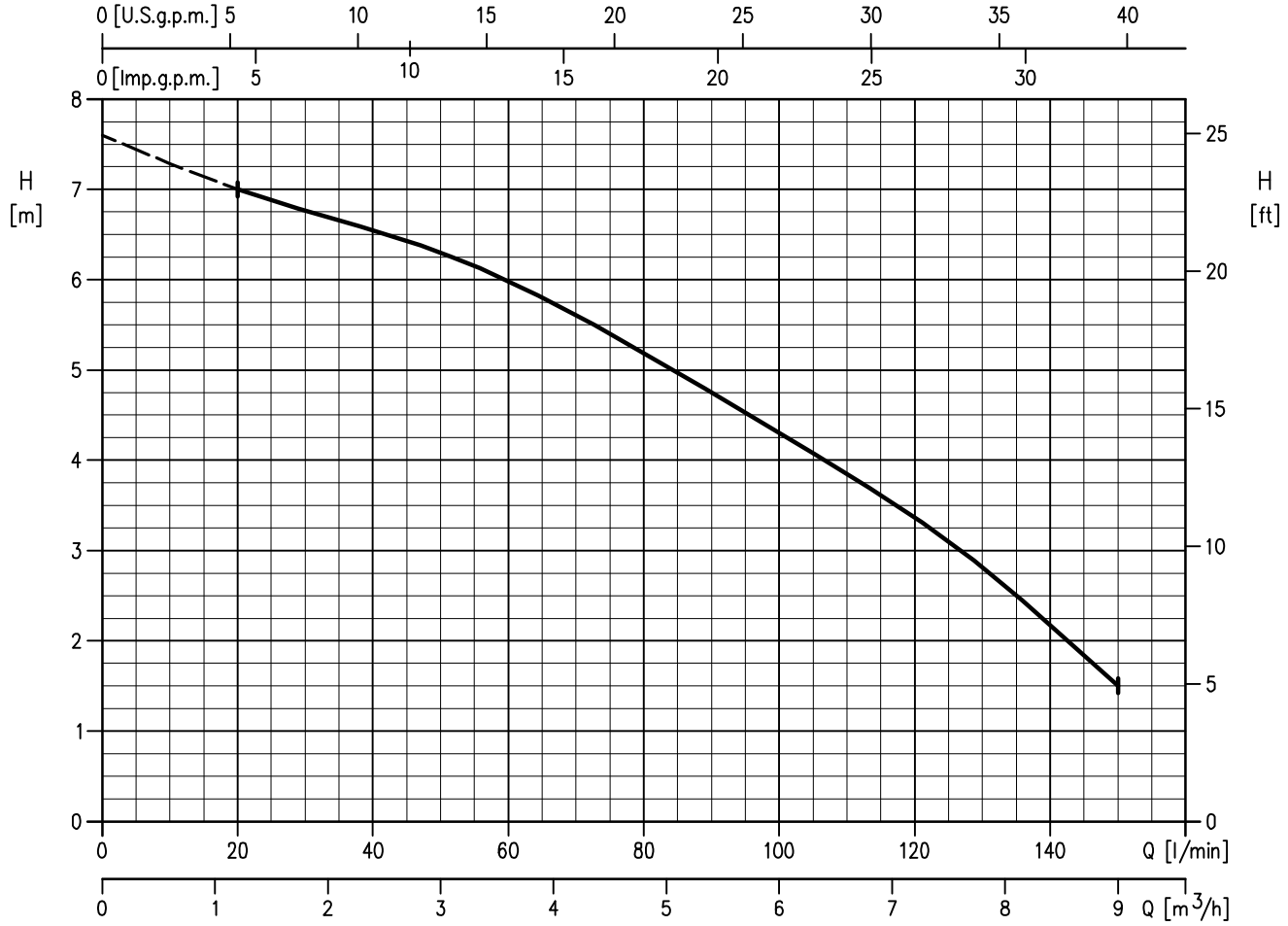
PUMP			
Liquid Handled	Type of liquid		Clear water (Clean water for MS version)
	Max temperature	[°C]	50
	Max solids size	[mm]	10
Maximum immersion		[m]	2 (with power cable length 5 m) 5 (with power cable length 10 m)
Construction	Impeller		Semi-open centrifugal type
	Shaft seal type		Oil lubricated mechanical seal (pump side) + lip seal (motor side)
	Bearing		Sealed ball bearing
Pipe Connection	Suction		Strainer
	Discharge nozzle	[inch]	G1¼": UNI ISO 228
Material	Pump casing		AISI 304
	Impeller		PPE + PS Glass fiber reinforced
	Shaft seal		Mechanical seal: Ceramic/Carbon/NBR Lip seal: NBR
	Casing cover		AISI 304
	Shaft		AISI 303 + AISI 303 ceramic coated shaft sleeve
	Lubricating liquid		White mineral oil: Esso Marcol 152
Applicable standard of test			ISO 9906 – Annex A

MOTOR			
Type			Submersible dry type
			Single Phase
No. of Poles			2
Rotation speed		[min^{-1}]	≈2800
Insulation Class			F
Protection degree			IP 68
Power rating		[kW]	0.25
		[HP]	0.33
Frequency		[Hz]	50
Voltage		[V]	230 ±10%
Capacitor			Built in
Over load protection			Built in
Casing material			AISI 304
Switch	float		MA version (no maintenance required)
	magnetic		MS version (maintenance required)
Float/magnetic switch cable	material		H07RN-F
	size		3G1
Power cable	length	[m]	5 (only for internal usage); 10
	material		H05RN-F
	size		3G0.75
Cable entry			Cable Gland

SELECTION CHART

50Hz

Rev. F



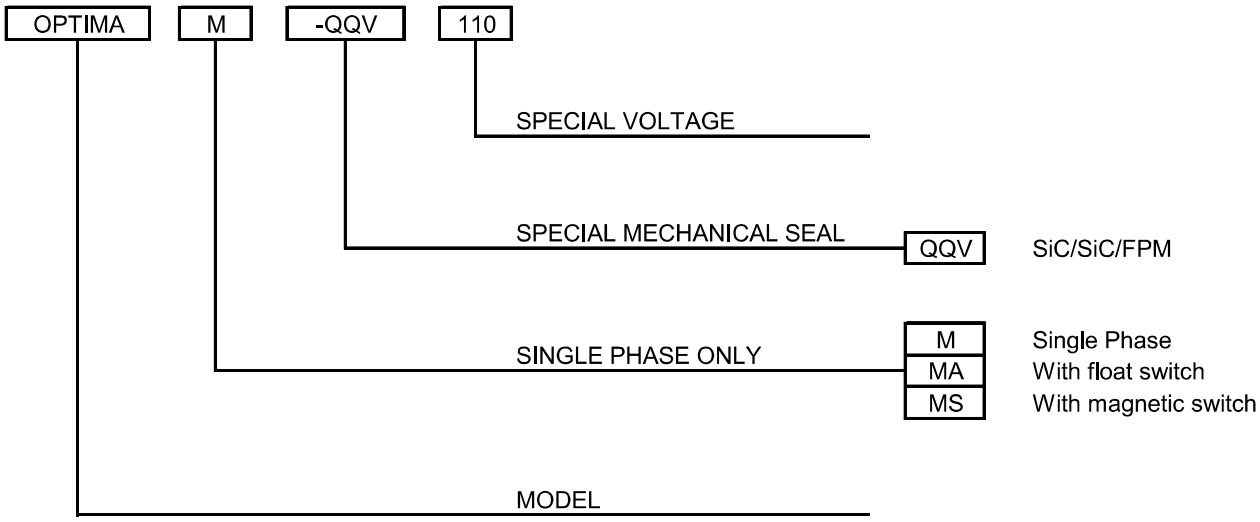
Pump Type	Power		Q=Capacity						
			l/min	0	20	50	75	100	125	150
			m³/h	0	1,2	3	4,5	6	7,5	9
Single Phase	[kW]	[HP]	H=Total manometric head in meters							
OPTIMA M	0,25	0,33	7,6	7,0	6,3	5,4	4,3	3,1	1,5

PERFORMANCE CURVE

50Hz

Rev. F

TYPE KEY:



PERFORMANCE CURVE SPECIFICATIONS

The specifications below qualify the curves shown on the following pages.

Tolerances according to ISO 9906 Annex A
The curves refer to effective speed of asynchronous motors at 50 Hz
Measurements were carried out with clean water at 20°C of temperature and with a kinematic viscosity of ν = 1 mm^2/s (1 cSt)

In order to avoid the risk of over-heating, the pumps should not be used at a flow rate below 10% of best efficiency point.

Symbols explanation:

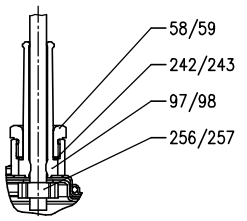
Q = volume flow rate
H = total head

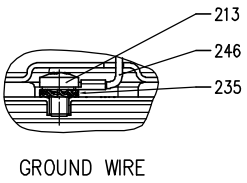
CONSTRUCTION

50Hz

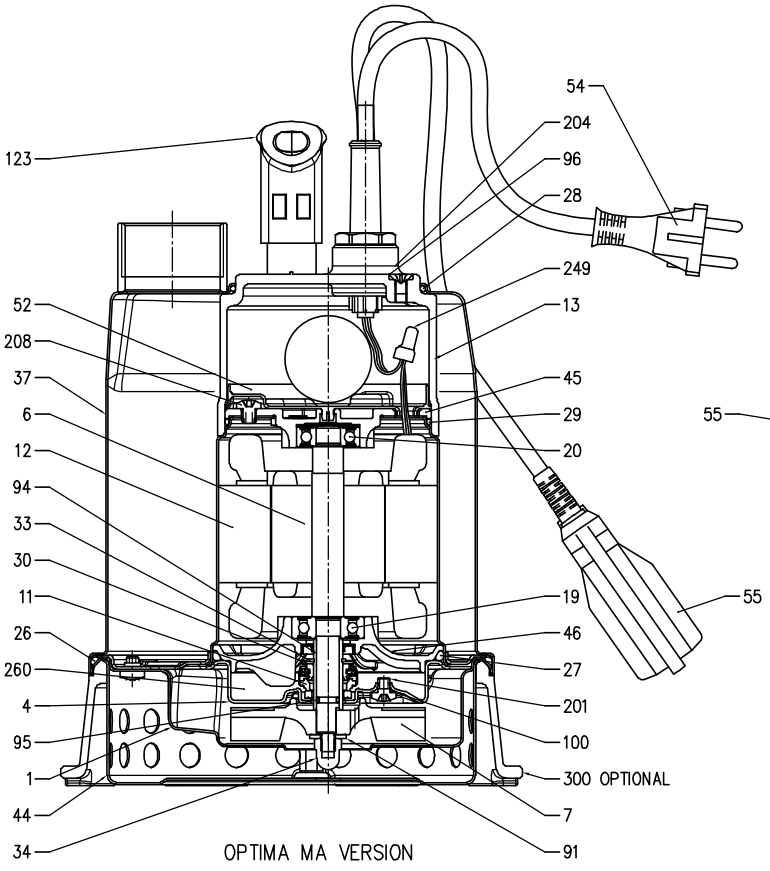
Rev. F

SECTIONAL VIEW DRAWING

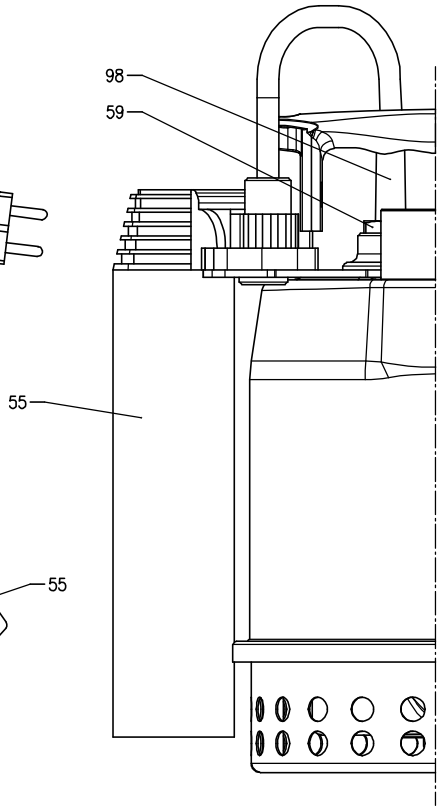




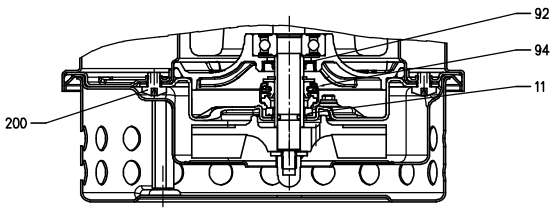
GROUND WIRE



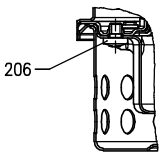
OPTIMA MA VERSION



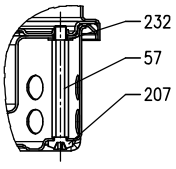
OPTIMA MS VERSION



MOTOR FIXING



SUCTION COVER FIXING



STRAINER FIXING

CONSTRUCTION

50Hz

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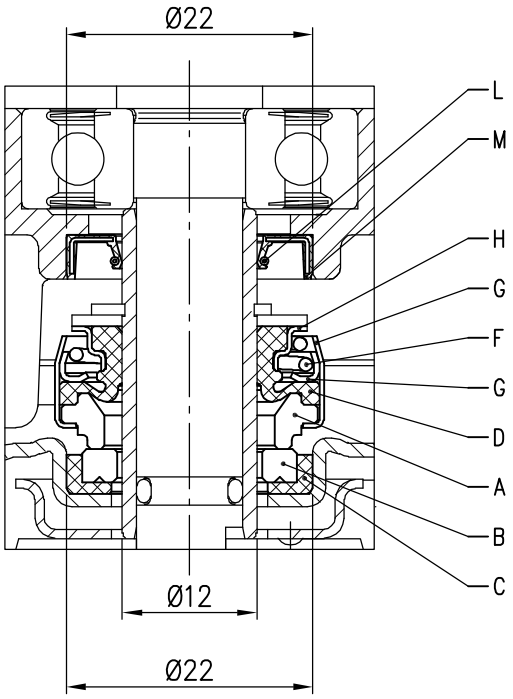
BEARINGS

Pump Type	Ball Bearing	
	Lower side	Upper side
OPTIMA M	6200 ZZ C3	6000 ZZ C3

MECHANICAL SEAL



REF	PART NAME	MATERIAL product standard	MATERIAL optional
A	Rotary seal ring	Carbon graphite	SiC
B	Stationary seal ring	Ceramic	SiC - Q6 (*)
C	Gasket	NBR	FPM
D	Bellows	NBR	FPM
F	Self driving spring	EN 1.4301 (AISI 304)	
G	Frame	EN 1.4301 (AISI 304)	
H	Retainer ring	EN 1.4301 (AISI 304)	
L	Spring	EN 1.4318 (AISI 302)	
M	Lip	NBR	

(*) Special grade of SiC with microporosities filled with graphite

DIMENSIONS AND WEIGHT

50Hz

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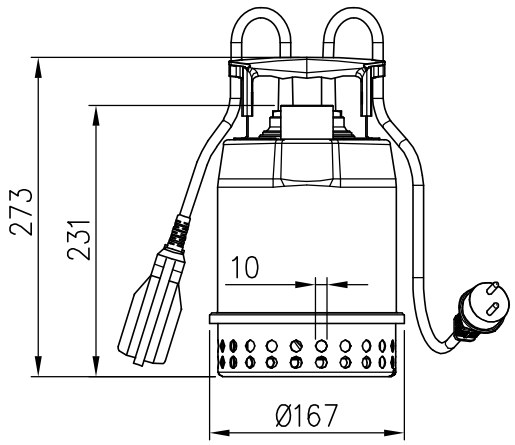
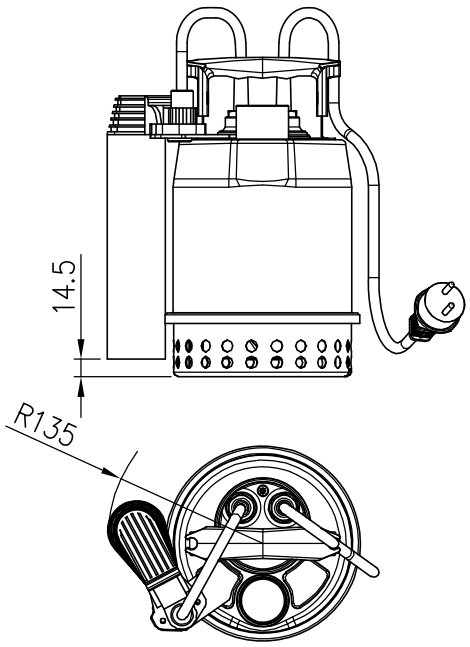
PUMP

OPTIMA MA



OPTIMA MS



Pump Type	Weight [kgf]
OPTIMA M	4,2
OPTIMA MA	4,4
OPTIMA MS	4,6

DIMENSIONS AND WEIGHT

50Hz

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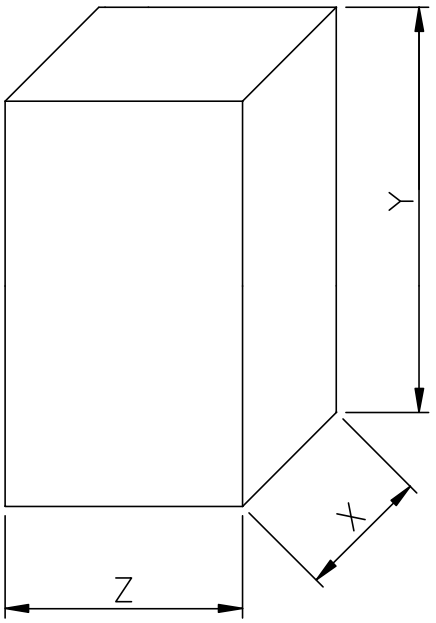
PACKING



Pump Type	Dimensions [mm] X	Y	Z	Weight [kgf]
OPTIMA M	180	330	220	4,7
OPTIMA MA				4,9
OPTIMA MS				5,1