



Japanese Technology since 1912

3 SERIES 4P

Data Book 50Hz



Version		3M4	3S4	3P4	3LM4	3LS4	3LP4
Pump sizes	32-125	■	■	■	●	●	●
	32-160	■	■	■	●	●	●
	32-200	■	■	■	●	●	●
	40-125	■	■	■	●	●	●
	40-160	■	■	■	●	●	●
	40-200	■	■	■	●	●	●
	50-125	■	■	■	●	●	●
	50-160	■	■	■	●	●	●
	50-200	■	■	■	●	●	●
	65-125	■	■	■	●	●	●
	65-160	■	■	■	●	●	●
	65-200	■	■	■	●	●	●
	65-250	-	-	-	●	●	●
	80-160	-	-	-	●	●	●
	80-200	-	-	-	●	●	●
	80-250	-	-	-	●	●	●

■ Available also with H, HS, HW, HSW, E version.

● Available also with H, HW, HSW, E version.

— Not available.

SELECTION CHART

50Hz

Rev.W

PUMP									
Version			3M4	3S4	3P4	3LM4	3LS4	3LP4	
Liquid Handled	Type of liquid		Clean water and moderately aggressive fluids						
			/			Drinking water and water contains glycol for E option			
Liquid Handled	Temperature [°C]		min. -10 max. +120 For full details see section "FLUID TEMPERATURE RANGE"						
	Maximum working pressure [MPa]		1						
Construction	Impeller		Closed centrifugal type for 32, 40, 50 version Reinforced laser welding for 40-200/1.5, 50-200/2.2 Closed centrifugal three dimensional blades for 65 and 80 version						
	Shaft seal type		Mechanical seal			Mechanical seal with stationary ring secured against rotation			
	Bearing		Bearing with contact seal						
Pipe Connection	Suction	32-125/160/200		Flange DN50 according EN1092-1 Standard					
		40-125/160/200		Flange DN65 according EN1092-1 Standard					
		50-125/160/200		Flange DN80 according EN1092-1 Standard					
		65-125/160/200/250		Flange DN100 according EN1092-1 Standard					
	Discharge	32-125/160/200		Flange DN32 according EN1092-1 Standard					
		40-125/160/200		Flange DN40 according EN1092-1 Standard					
		50-125/160/200		Flange DN50 according EN1092-1 Standard					
		65-125/160/200/250		Flange DN65 according EN1092-1 Standard					
80-160/200/250		Flange DN80 according EN1092-1 Standard							
Material	Casing	32-125/160/200 40-125/160/200 50-125/160/200 65-125/160/200		EN 1.4301 (AISI 304)			EN 1.4404 (AISI 316L)		
		65-250 80-160/200/250		/			CF8M - EN 1.4408 (AISI 316)		
		Impeller	32-125/160/200 40-125/160/200 50-125/160/200		EN 1.4301 (AISI 304)			EN 1.4404 (AISI 316L)	
			65-125/160/200		CF8M - EN 1.4408 (AISI 316)				
	65-250 80-160/200/250		/			CF8M - EN 1.4408 (AISI 316)			
	Casing cover		32-125/160/200 40-125/160/200 50-125/160/200 65-125/160/200		EN 1.4301 (AISI 304)			EN 1.4404 (AISI 316L)	
		65-250 80-160/200/250		/			CF8M - EN 1.4408 (AISI 316)		
		Mechanical seal	32-125/160/200 40-125/160/200 50-125/160/200 65-125/160/200		Ceramic/Carbon/NBR (See page 321+325)			SiC/SiC/FPM (L version) (See page 321+325)	
			65-250 80-160/200/250		/				
	O-ring		NBR (See page 321+325)			FPM (See page 321+325)			
	Shaft		32, 40, 50, 65	d=19	EN 1.4301 (AISI 304)			EN 1.4404 (AISI 316L)	
		50-200/2.2	d=22						
		80-160	d=19	/					
		65-250 80-200/250	d=24						
	Bracket		Cast iron - Aluminium						
	Applicable standard of test			ISO 9906:2012 – Grade 3B					

SELECTION CHART

50Hz

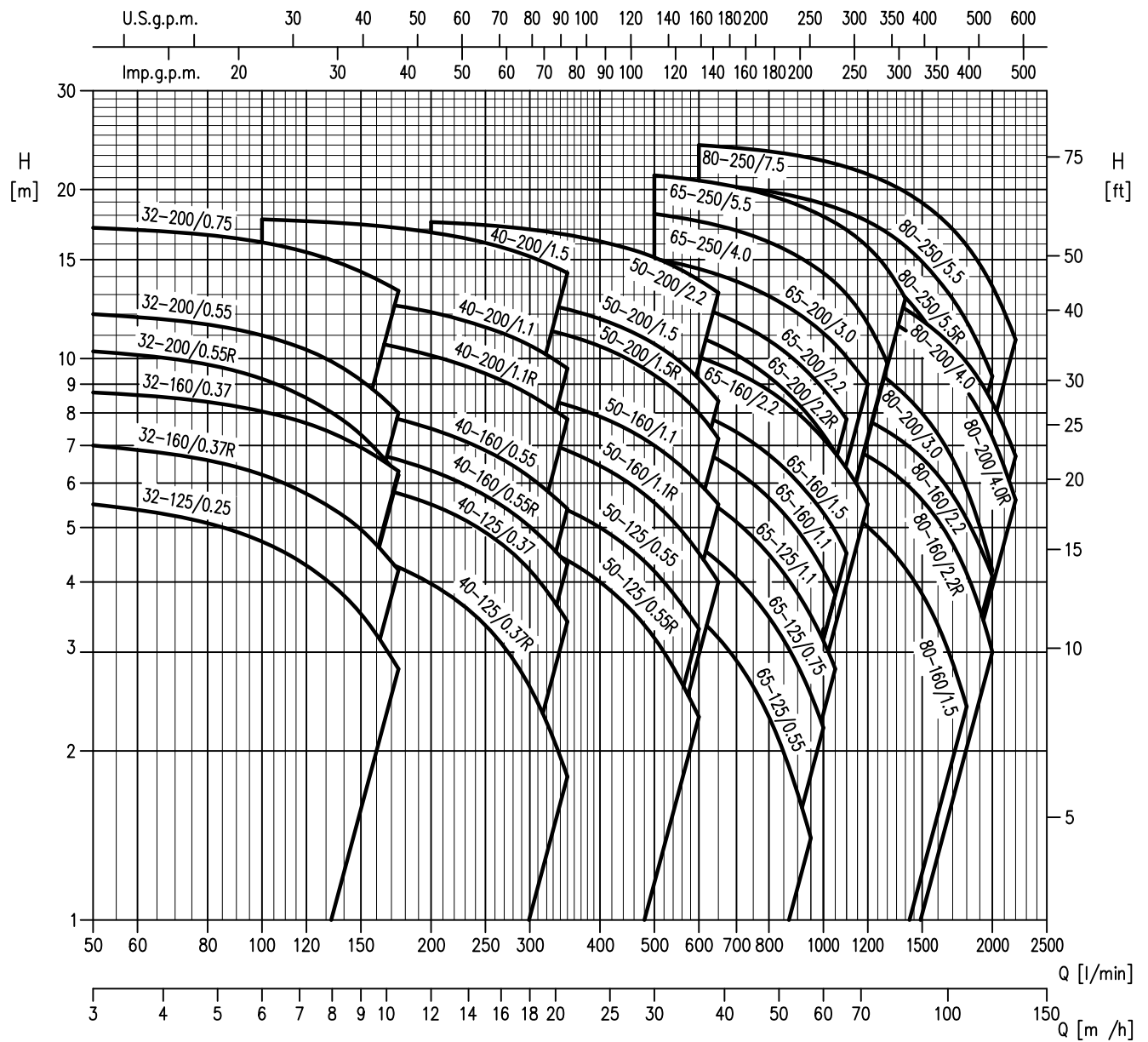
Rev.W

MOTOR			
Type	3(.)M4	3(.)S4	3(.)P4
	Electric - TEFC		
	Three Phase		
Efficiency level (Reg. 1781/2019)	IE2 from 0.25 kW up to 0.55 kW IE3 from 0.75 kW up to 7.5 kW		
No. of Poles	4		
Rotation speed [min ⁻¹]	≈ 1400		
Insulation Class	F (class B for temperature rise)		
Protection degree (CEI EN 60034-5)	IP 55		
Power rating [kW]	0.25 ÷ 7.5		
[HP]	0.33 ÷ 10		
Frequency [Hz]	50		
Voltage [V]	230/400 ±10% (up to 4.0 kW) 400/690 ±10% (5.5 kW and above)		
Over load protection	Provided by the user		
Casing material	Aluminium		
Motor support	Cast iron - Alluminium		
Dimensions of cable entry	PG11 PG13.5 PG16 PG21 * M25X1,5 * M20X1,5	M20x1.5 M25x1.5 M32x1.5	
Flange mount (IEC motor)	/	IM B5 (up to 1.5 kW) IM B35 (2.2 kW and above)	IM B3

* Only for 65-250/4,80-200/4 models

SELECTION CHART**50Hz**

Rev.W



SELECTION CHART**50Hz**

Rev.W

3 SERIES 4 Poles: 32, 40, 50 Version

Pump type	Power		Q=Capacity													
	[kW]	[HP]	l/min	0	50	100	150	175	200	250	300	350	400	500	600	650
			m³/h	0	3	6	9	10.5	12	15	18	21	24	30	36	39
H=Total manometric head in meters																
32-125/0.25	0.25	0.33	5.7	5.5	4.7	3.5	2.8	-	-	-	-	-	-	-	-	-
32-160/0.37R	0.37	0.5	7.3	7	6.2	5	4.2	-	-	-	-	-	-	-	-	-
32-160/0.37	0.37	0.5	9	8.7	8.1	7	6.3	-	-	-	-	-	-	-	-	-
32-200/0.55R	0.55	0.75	10.8	10.3	9.2	7.3	6.2	-	-	-	-	-	-	-	-	-
32-200/0.55	0.55	0.75	12.5	12	11	9.2	8	-	-	-	-	-	-	-	-	-
32-200/0.75	0.75	1	17.5	17.1	16.1	14.3	13.2	-	-	-	-	-	-	-	-	-
40-125/0.37R	0.37	0.5	5.1	-	4.8	4.5	4.3	4	3.4	2.6	1.8	-	-	-	-	-
40-125/0.37	0.37	0.5	6.5	-	6.3	6	5.8	5.5	4.9	4.2	3.4	-	-	-	-	-
40-160/0.55R	0.55	0.75	7.7	-	7.3	6.9	6.6	6.3	5.7	5	4.3	-	-	-	-	-
40-160/0.55	0.55	0.75	9.1	-	8.6	8.1	7.8	7.5	6.9	6.2	5.4	-	-	-	-	-
40-200/1.1R	1.1	1.5	11.6	-	11.2	10.8	10.5	10.1	9.4	8.6	7.8	-	-	-	-	-
40-200/1.1	1.1	1.5	13.6	-	13.2	12.7	12.4	12.1	11.4	10.6	9.6	-	-	-	-	-
40-200/1.5	1.5	2	18	-	17.7	17.3	17.1	16.8	16.1	15.2	14.2	-	-	-	-	-
50-125/0.55R	0.55	0.75	5.4	-	-	-	-	5.2	5	4.7	4.4	4	3.2	2.3	-	-
50-125/0.55	0.55	0.75	6.4	-	-	-	-	6.2	6	5.7	5.4	5	4.2	3.3	-	-
50-160/1.1R	1.1	1.5	8.2	-	-	-	-	7.8	7.6	7.2	6.9	6.4	5.5	4.5	4	-
50-160/1.1	1.1	1.5	9.5	-	-	-	-	9.1	8.9	8.6	8.3	7.9	7	6	5.5	-
50-200/1.5R	1.5	2	12.7	-	-	-	-	12.1	11.8	11.4	11	10.5	9.3	8	7.2	-
50-200/1.5	1.5	2	14	-	-	-	-	13.3	13	12.7	12.2	11.8	10.6	9.2	8.4	-
50-200/2.2	2.2	3	17.8	-	-	-	-	17.5	17.3	17	16.6	16.2	15.1	13.8	13.1	-

3 SERIES 4 Poles: 65, 80 Version

Pump type	Power		Q=Capacity																	
	[kW]	[HP]	l/min	0	300	350	500	600	800	950	1000	1050	1100	1200	1300	1400	1600	1800	2000	2200
			m³/h	0	18	21	30	36	48	57	60	63	66	72	78	84	96	108	120	132
H=Total manometric head in meters																				
65-125/0.55	0.55	0.75	5.3	4.8	4.6	4	3.5	2.3	1.4	-	-	-	-	-	-	-	-	-	-	-
65-125/0.75	0.75	1	6.4	6	5.8	5.2	4.6	3.5	2.5	2.2	-	-	-	-	-	-	-	-	-	-
65-125/1.1	1.1	1.5	7.7	7.2	7	6.3	5.7	4.5	3.5	3.2	2.8	-	-	-	-	-	-	-	-	-
65-160/1.1	1.1	1.5	8.6	-	8.1	7.4	6.9	5.7	4.6	4.2	3.8	-	-	-	-	-	-	-	-	-
65-160/1.5	1.5	2	9.7	-	9.2	8.5	8	6.7	5.7	5.3	4.9	4.5	-	-	-	-	-	-	-	-
65-160/2.2	2.2	3	11.8	-	11.3	10.6	10.1	8.8	7.6	7.2	6.8	6.4	5.5	-	-	-	-	-	-	-
65-200/2.2R	2.2	3	13	-	12.4	11.6	10.9	9.3	7.8	7.3	6.8	-	-	-	-	-	-	-	-	-
65-200/2.2	2.2	3	14.5	-	13.9	13	12.4	10.8	9.3	8.8	8.3	7.8	-	-	-	-	-	-	-	-
65-200/3	3	4	16.3	-	15.8	15.1	14.4	12.9	11.6	11.1	10.6	10.1	9	-	-	-	-	-	-	-
65-250/4	4	5.5	18.8	-	-	18.1	17.6	16.1	14.7	14.2	13.7	13	11.6	9.8	-	-	-	-	-	-
65-250/5.5	5.5	7.5	21.8	-	-	21.2	20.8	19.6	18.4	17.9	17.5	17	15.8	14.4	12.8	-	-	-	-	-
80-160/1.5	1.5	2	7.3	-	-	-	6.8	6.3	5.9	5.7	5.6	5.4	5	4.6	4.2	3.4	2.4	-	-	-
80-160/2.2R	2.2	3	8.6	-	-	-	8.1	7.8	7.4	7.3	7.1	7	6.7	6.4	6	5.2	4.2	3	-	-
80-160/2.2	2.2	3	9.5	-	-	-	9.1	8.8	8.4	8.3	8.2	8	7.8	7.4	7.1	6.2	5.2	4.1	-	-
80-200/3	3	4	12.4	-	-	-	12	11.5	10.9	10.7	10.4	10.2	9.7	9.2	8.6	7.3	5.9	4.2	-	-
80-200/4R	4	5.5	14.8	-	-	-	14.4	13.9	13.4	13.2	12.9	12.7	12.2	11.7	11.2	10.1	8.8	7.2	5.6	-
80-200/4	4	5.5	16.0	-	-	-	15.4	14.9	14.3	14.1	13.9	13.7	13.2	12.8	12.3	11.1	9.9	8.4	6.7	-
80-250/5.5R	5.5	7.5	18.5	-	-	-	17.7	17	16.3	16	15.7	15.4	14.6	13.8	12.9	10.7	8.4	-	-	-
80-250/5.5	5.5	7.5	21.2	-	-	-	20.5	19.9	19.1	18.9	18.6	18.2	17.6	16.8	15.9	13.8	11.7	9.3	-	-
80-250/7.5	7.5	10	24.5	-	-	-	24	23.4	22.8	22.5	22.2	21.9	21.3	20.6	19.8	18	15.9	13.5	10.8	-

PERFORMANCE CURVE SPECIFICATIONS

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

Tolerances according to ISO 9906:2012 - Grade 3B

The curves refer to effective speed of asynchronous motors at 50 Hz, 4 poles.

Measurements were carried out with clean water at 20°C of temperature and with a kinematic viscosity of $\nu = 1 \text{ mm}^2/\text{s}$ (1 cSt)

The NPSH curve is an average curve obtained in the same conditions of performance curves.

The continuous curves indicate the recommended working range. The dotted curve is only a guide.

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
- P_2 = pump power input (shaft power)
- η = pump efficiency
- NPSH = net positive suction head required by the pump
- MEI = minimum efficiency index