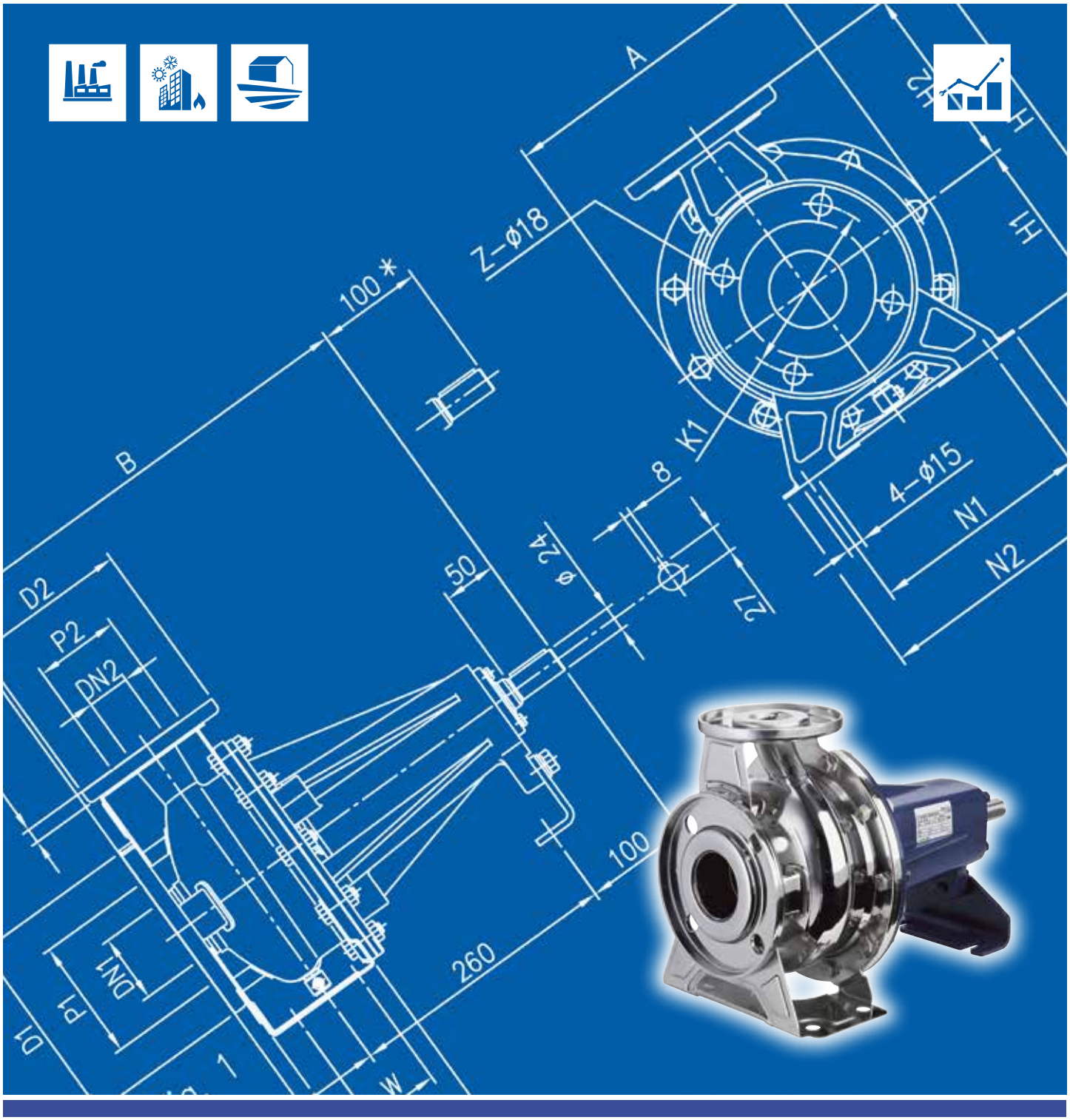
EBARA

Japanese Technology since 1912

3 SERIES F version 4P

Data Book 50Hz



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50Hz

Rev. H

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SPECIFICATIONS

50Hz

Rev. H

Pump sizes			Version	**3SF4**	**3PF4**	**3LSF4**	**3LPF4**
			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	-	-	●	●
Liquid Handled	Type of liquid			Clean water and mode rately aggressive fluids			
				/		Clean water, drinking water, water contains glycol for E version	
	Temperature	min.	[°C]	-10		-10 -20 for E version, Q1AEGG, U3U3EGG, Q1U3EGG, Q1Q1EGG, U3CEGG	
		max.		90 (Standard, E, U3CEGG,Q1AEGG, Q1Q1EGG,Q1U3EGG,U3U3EGG) 110 for (H-HS-HW-HSW)		110 (L version, H-HW-HSW) 120 for E, version, Q1AEGG, U3U3EGG, Q1U3EGG, Q1Q1EGG, U3CEGG	
Maximum working pressure			[MPa]	1			

■ Available also with H-HS-HW-HSW-E option for 32, 40, 50, 65-125/160/200, and mechanical seal special Q1AEGG, U3U3EGG, Q1Q1EGG,Q1U3EGG, U3CEGG

● Available also with H-HW-HSW-E option for 32, 40, 50, 65, 80 and mechanical seal special Q1AEGG, Q1Q1EGG,Q1U3EGG, U3CEGG, U3U3EGG. (U3U3EGG not available for model 65-250 and 80-200/250)

– Not available.

SPECIFICATIONS 50Hz

Rev. H

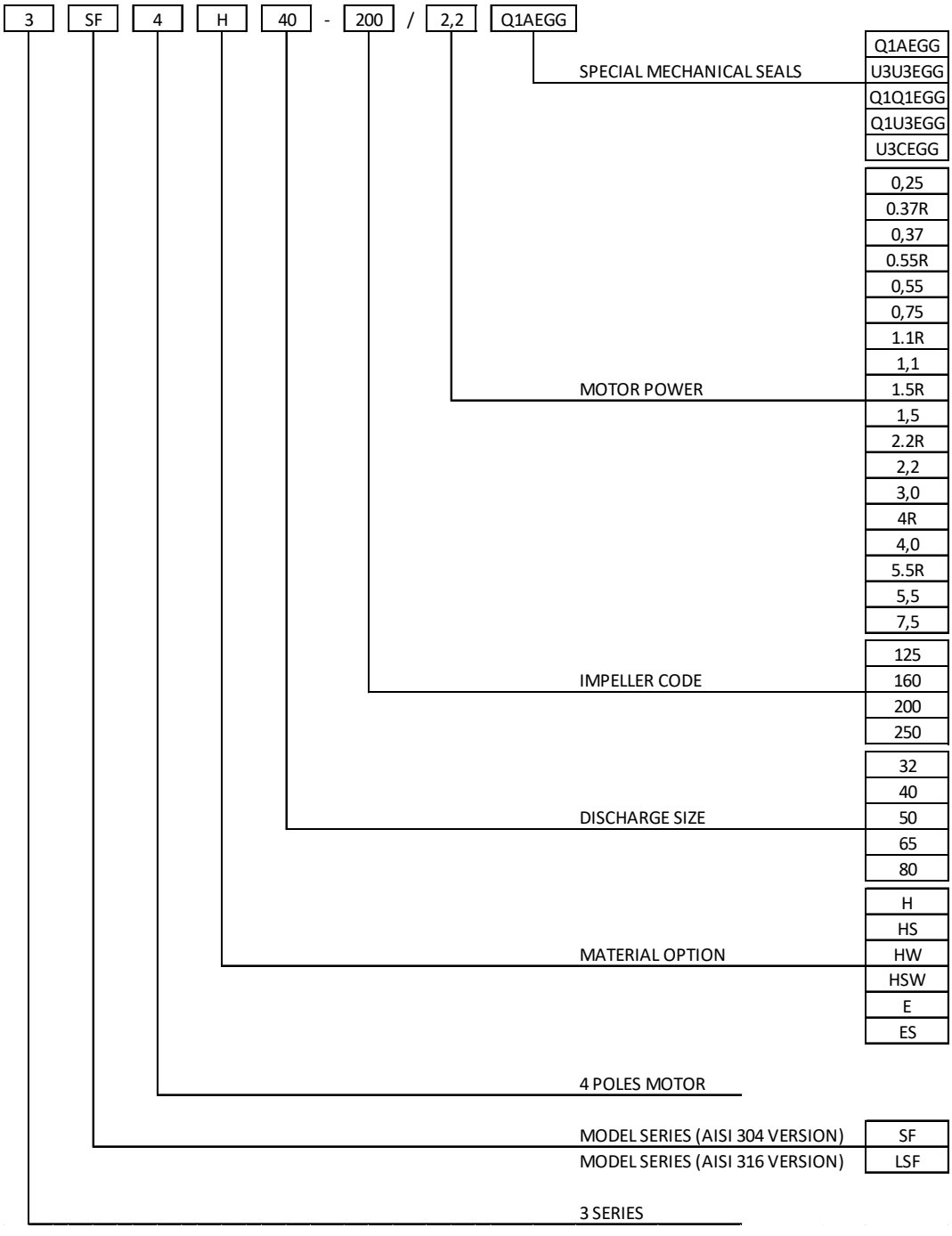
Version				3SF4	3PF4	3LSF4	3LPF4
Construction	Impeller			Closed centrifugal type for [32, 40, 50 version] Reinforced laser welding for [40-200/1.5,50-200/2.2] Closed centrifugal three dimensional blades for [65 and 80 version]			
	Shaft seal type			Mechanical seal		Mechanical seal with stationary ring secured against rotation. Mechanical seal for [H-E option]	
	Bearing			Sealed ball bearing			
Pipe Connection	Suction	32-125/160/200		Flange DN50 according DIN 2532 standard			
		40-125/160/200		Flange DN65 according DIN 2532 standard			
		50-125/160/200		Flange DN65 according DIN 2532 standard			
		65-125/160/200/250		Flange DN80 according DIN 2532 standard			
		80-160/200/250		Flange DN100 according DIN 2532 standard			
	Discharge	32-125/160/200		Flange DN32 according DIN 2532 standard			
		40-125/160/200		Flange DN40 according DIN 2532 standard			
		50-125/160/200		Flange DN50 according DIN 2532 standard			
		65-125/160/200/250		Flange DN65 according DIN 2532 standard			
		80-160/200/250		Flange DN80 according DIN 2532 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 316 L)	
		65-250 80-160/200/250		/		EN 1 .4404 (AISI 316 L) Made by pre cision casting	
	Impeller	32-125/160/200 40-125/160/200 50-125/160/200		EN 1.4301 (AISI 304)		EN 1 .4404 (AISI 316 L)	
		65-125/160/200		EN 1.4401 (AISI 316) Made by pre cision casting			
		65-250 80-160/200/250		/		EN 1 .4404 (AISI 316 L) Made by pre cision casting	
	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 316 L)	
		65-250 80-160/200/250		/		EN 1.4401 (AISI 316) Made by pre cision casting	
	Mechanical seal	32-125/160/200 40-125/160/200 50-125/160/200 65-125/160/200		Ceramic/Carbon/NBR (For version see page 313÷317)		SiC/SiC/FPM (For version see page 313÷317)	
		65-250 80-160/200/250		/			
	O-ring			NBR FPM for [H-HS-HW-HSW option] EPDM for [E, U3U3EGG, Q1Q1EGG, Q1U3EGG, U3CEGG, Q1AEGG]		FPM for [L, H-HW-HSW] EPDM for [E, ES, U3U3EGG, Q1Q1EGG, Q1U3EGG, U3CEGG, Q1AEGG]	
	Shaft	32, 40, 50, 65	d=19	EN 1.4301 (AISI 304)		EN 1 .4404 (AISI 316 L)	
		50-200/2.2	d=22				
		80-160	d=19				
		65-250 80-200/250	d=24	/		EN 1.4404 (AISI 316L)	EN 1.4462 (Duplex stainless steel)
	Bracket			Cast iron - aluminium			

TYPE KEY

50Hz

Rev. H

TYPE KEY: SF4

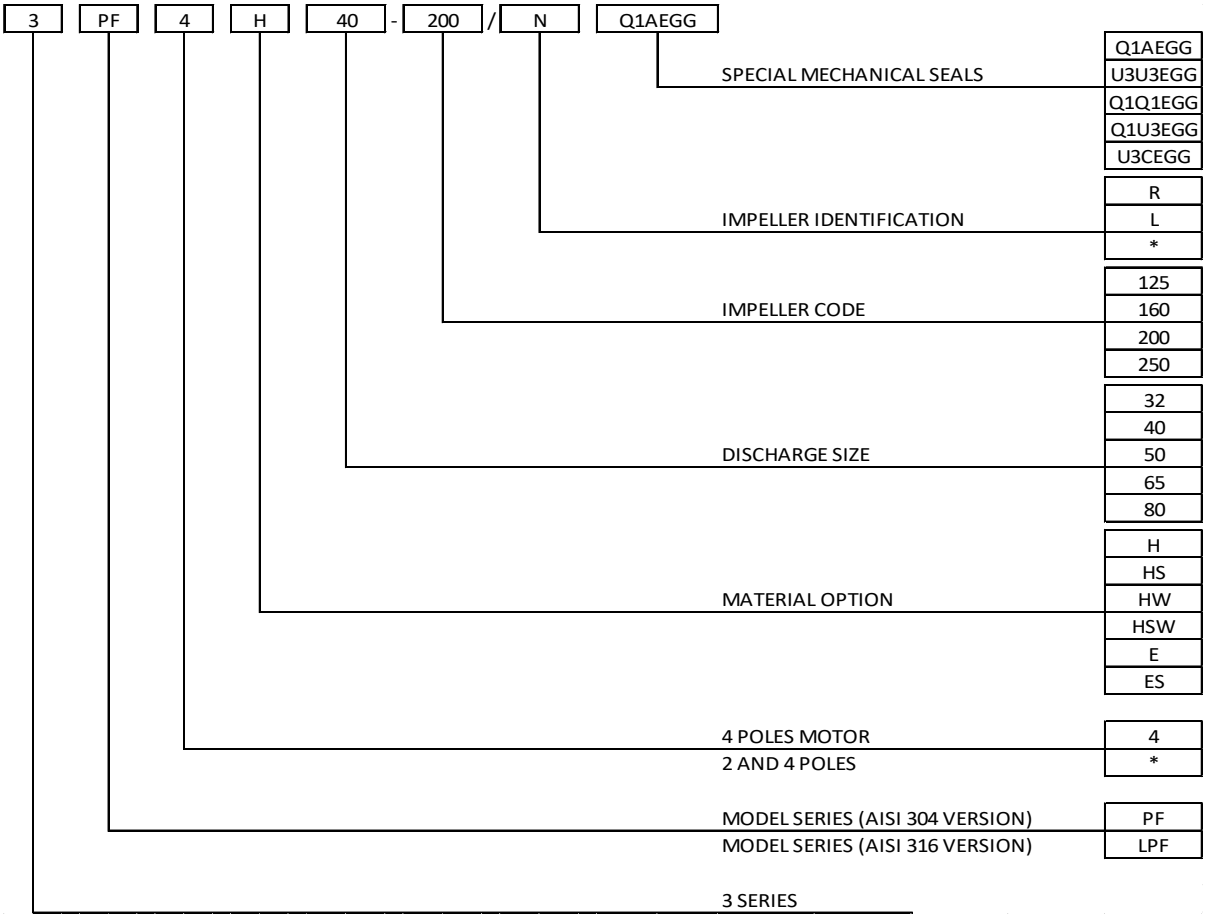


TYPE KEY

50Hz

Rev. H

TYPE KEY: PF4



SELECTION CHART

50Hz

Rev. H

3 SERIES SF4 and PF4 version: 32, 40, 50

Pump type				Motor		Q=Capacity													
						l/min	0	50	100	150	175	200	250	300	350	400	500	600	650
				kW	HP	m^3/h	0	3	6	9	10,5	12	15	18	21	24	30	36	39
						H=Total manometric head in meters													
3(.)SF4	32-125/0.25	3(.)PF4	32-125	0,25	0,33	5,7	5,5	4,7	3,5	2,8	-	-	-	-	-	-	-	-
3(.)SF4	32-160/0.37R	3(.)PF4	32-160/R	0,37	0,5	7,3	7	6,2	5	4,2	-	-	-	-	-	-	-	-
3(.)SF4	32-160/0.37	3(.)PF4	32-160	0,37	0,5	9	8,7	8,1	7	6,3	-	-	-	-	-	-	-	-
3(.)SF4	32-200/0.55R	3(.)PF4	32-200/R	0,55	0,75	10,8	10,3	9,2	7,3	6,2	-	-	-	-	-	-	-	-
3(.)SF4	32-200/0.55	3(.)PF4	32-200	0,55	0,75	12,5	12	11	9,2	8	-	-	-	-	-	-	-	-
3(.)SF4	32-200/0.75	3(.)PF4	32-200/L	0,75	1	17,5	17,1	16,1	14,3	13,2	-	-	-	-	-	-	-	-
3(.)SF4	40-125/0.37R	3(.)PF4	40-125/R	0,37	0,5	5,1	-	4,8	4,5	4,3	4	3,4	2,6	1,8	-	-	-	-
3(.)SF4	40-125/0.37	3(.)PF4	40-125	0,37	0,5	6,5	-	6,3	6	5,8	5,5	4,9	4,2	3,4	-	-	-	-
3(.)SF4	40-160/0.55R	3(.)PF4	40-160/R	0,55	0,75	7,7	-	7,3	6,9	6,6	6,3	5,7	5	4,3	-	-	-	-
3(.)SF4	40-160/0.55	3(.)PF4	40-160	0,55	0,75	9,1	-	8,6	8,1	7,8	7,5	6,9	6,2	5,4	-	-	-	-
3(.)SF4	40-200/1.1R	3(.)PF4	40-200/R	1,1	1,5	11,6	-	11,2	10,8	10,5	10,1	9,4	8,6	7,8	-	-	-	-
3(.)SF4	40-200/1.1	3(.)PF4	40-200	1,1	1,5	13,6	-	13,2	12,7	12,4	12,1	11,4	10,6	9,6	-	-	-	-
3(.)SF4	40-200/1.5	3(.)PF4	40-200/L	1,5	2	18	-	17,7	17,3	17,1	16,8	16,1	15,2	14,2	-	-	-	-
3(.)SF4	50-125/0.55R	3(.)PF4	50-125/R	0,55	0,75	5,4	-	-	-	-	5,2	5	4,7	4,4	4	3,2	2,3	-
3(.)SF4	50-125/0.55	3(.)PF4	50-125	0,55	0,75	6,4	-	-	-	-	6,2	6	5,7	5,4	5	4,2	3,3	-
3(.)SF4	50-160/1.1R	3(.)PF4	50-160/R	1,1	1,5	8,2	-	-	-	-	7,8	7,6	7,2	6,9	6,4	5,5	4,5	4
3(.)SF4	50-160/1.1	3(.)PF4	50-160	1,1	1,5	9,5	-	-	-	-	9,1	8,9	8,6	8,3	7,9	7	6	5,5
3(.)SF4	50-200/1.5R	3(.)PF4	50-200/R	1,5	2	12,7	-	-	-	-	12,1	11,8	11,4	11	10,5	9,3	8	7,2
3(.)SF4	50-200/1.5	3(.)PF4	50-200	1,5	2	14	-	-	-	-	13,3	13	12,7	12,2	11,8	10,6	9,2	8,4

3 SERIES SF4 and PF4 version: 65, 80

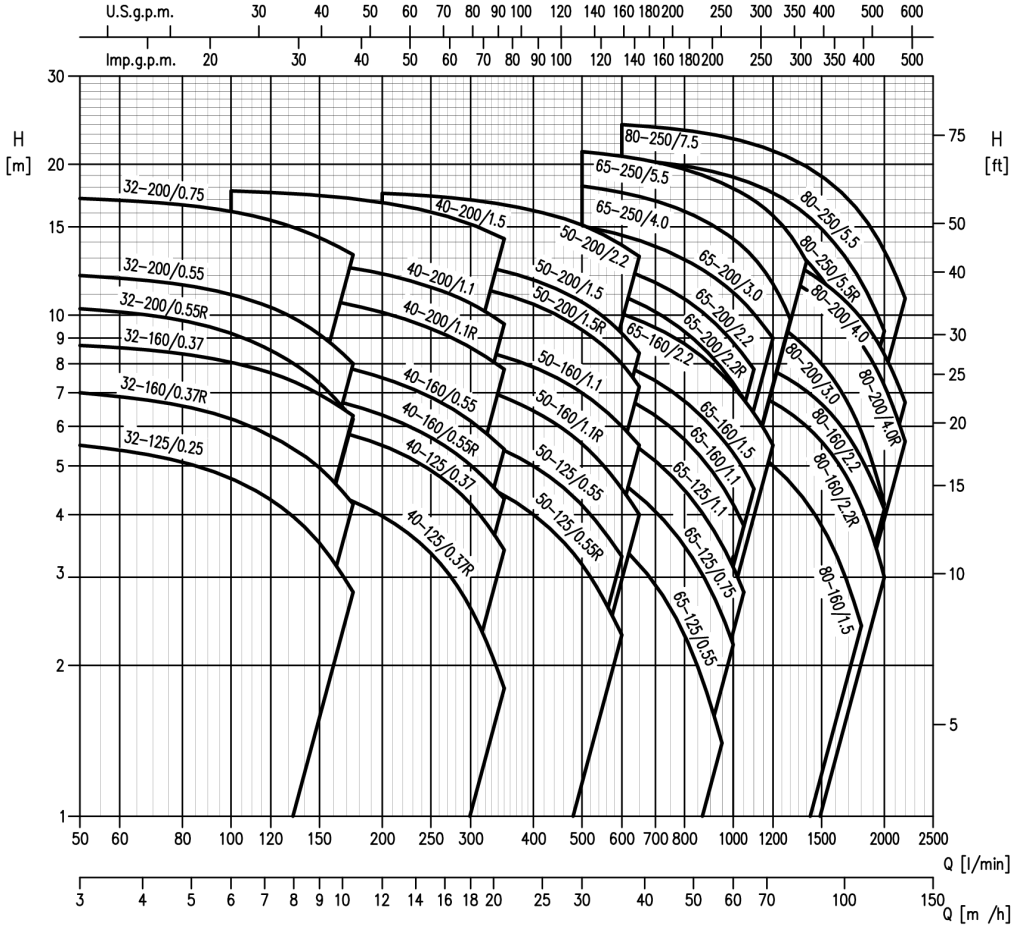
Pump type				Motor		Q=Capacity																
						l/min	0	300	350	500	600	800	950	1000	1050	1100	1200	1300	1400	1600	1800	2000	2200
				kW	HP	m^3/h	0	18	21	30	36	48	57	60	63	66	72	78	84	96	108	120	132
						H=Total manometric head in meters																	
3(.)SF4	65-125/0.55	3(.)PF4	65-125/R	0,55	0,75	5,3	4,8	4,6	4	3,5	2,3	1,4	-	-	-	-	-	-	-	-	-	-
3(.)SF4	65-125/0.75	3(.)PF4	65-125	0,75	1	6,4	6	5,8	5,2	4,6	3,5	2,5	2,2	-	-	-	-	-	-	-	-	-
3(.)SF4	65-125/1.1	3(.)PF4	65-125/L	1,1	1,5	7,7	7,2	7	6,3	5,7	4,5	3,5	3,2	2,8	-	-	-	-	-	-	-	-
3(.)SF4	65-160/1.1	3(.)PF4	65-160/R	1,1	1,5	8,6	-	8,1	7,4	6,9	5,7	4,6	4,2	3,8	-	-	-	-	-	-	-	-
3(.)SF4	65-160/1.5	3(.)PF4	65-160	1,5	2	9,7	-	9,2	8,5	8	6,7	5,7	5,3	4,9	4,5	-	-	-	-	-	-	-
3(.)SF4	65-160/2.2	3(.)PF4	65-160/L	2,2	3	11,8	-	11,3	10,6	10,1	8,8	7,6	7,2	6,8	6,4	5,5	-	-	-	-	-	-
3(.)SF4	65-200/2.2R	3(.)PF4	65-200/R	2,2	3	13	-	12,4	11,6	10,9	9,3	7,8	7,3	6,8	-	-	-	-	-	-	-	-
3(.)SF4	65-200/2.2	3(.)PF4	65-200	2,2	3	14,5	-	13,9	13	12,4	10,8	9,3	8,8	8,3	7,8	-	-	-	-	-	-	-
3(.)SF4	65-200/3	3(.)PF4	65-200/L	3	4	16,3	-	15,8	15,1	14,4	12,9	11,6	11,1	10,6	10,1	9	-	-	-	-	-	-
3LSF4	65-250/4	3LPF4	65-250	4	5,5	18,8	-	-	18,1	17,6	16,1	14,7	14,2	13,7	13	11,6	9,8	-	-	-	-	-
3LSF4	65-250/5.5	3LPF4	65-250/L	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	-	-	-	-
3LSF4	80-160/1.5	3LPF4	80-160/R	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	-	-
3LSF4	80-160/2.2R	3LPF4	80-160	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	-
3LSF4	80-160/2.2	3LPF4	80-160/L	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	-
3LSF4	80-200/3	3LPF4	80-200/R	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	-
3LSF4	80-200/4R	3LPF4	80-200	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
3LSF4	80-200/4	3LPF4	80-200/L	4	5,5	16	-	-	-	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
3LSF4	80-250/5.5R	3LPF4	80-250/R	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	-	-
3LSF4	80-250/5.5	3LPF4	80-250	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	-

PERFORMANCE CURVE

50Hz

Rev. H

PERFORMANCE RANGE



PERFORMANCE CURVE SPECIFICATIONS

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

Tolerances according to ISO 9006:2012 - 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 v = 1 mm^2/s (1 cSt)
The NPSH curve is an average curve obtained in the same conditions of performance curves.
During the pump selection, consider to get a safety margin of at least 1 m.
The continuos 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

PERFORMANCE CURVE 50Hz

Rev. H

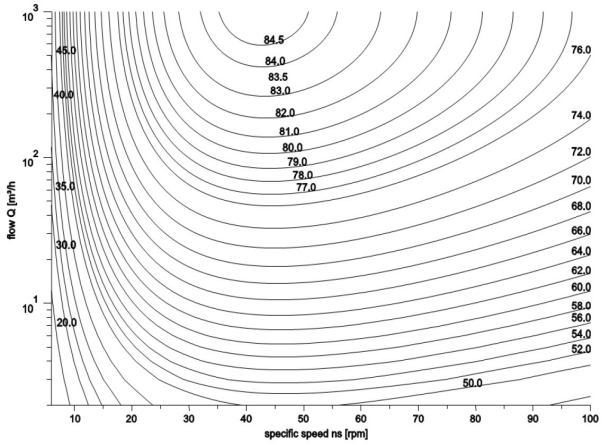
MEI INDEX SPECIFICATION

The minimun efficiency index (MEI) is a measure of the quality of a pump size in respect to its mean efficiency. The minimum efficiency index is based on the hydraulic efficiency and on the head at the best efficiency point.

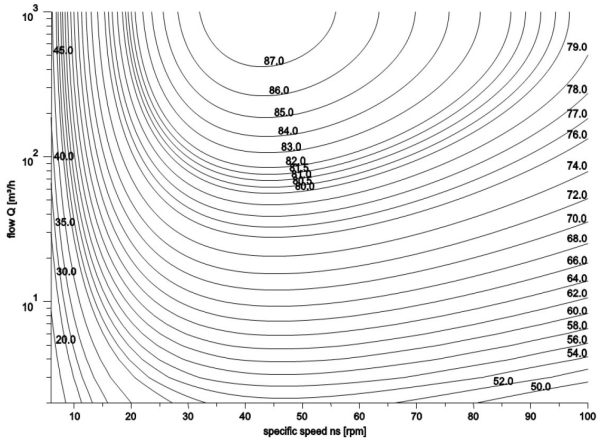
The efficiency of a pump with trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point,leading to a reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.

The operation of these water pumps with variabile duty points may be more efficient end economical when controlled,for example,by the use of a variable speed drive that matches the pump duty to the system

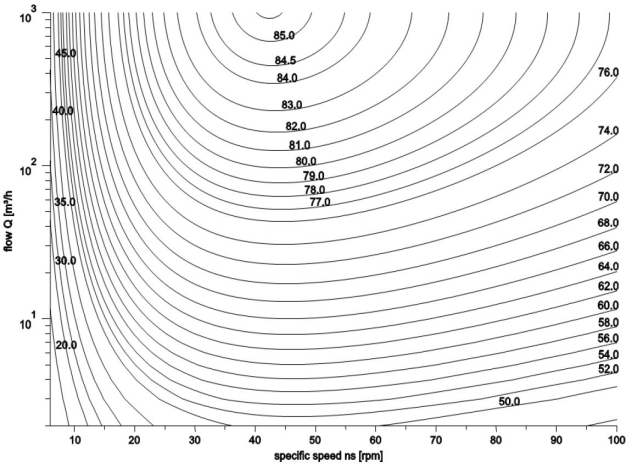
MEI=0.4 for ESCC 1450rpm



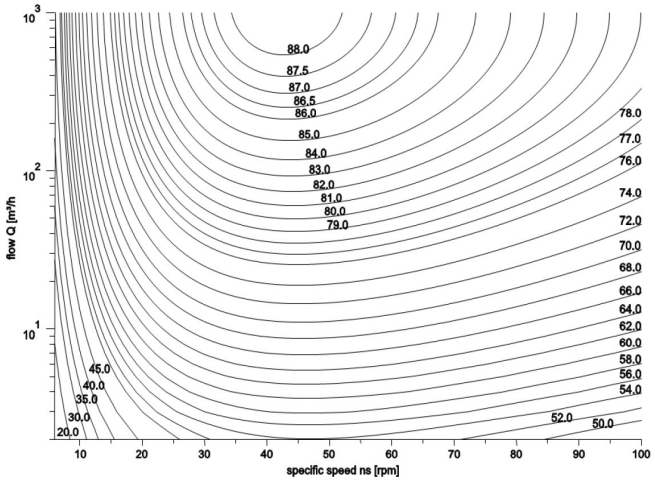
MEI = 0.7 for ESCC 1450rpm



MEI = 0.4 for ESOB 1450



MEI = 0.7 for ESOB 1450 rpm

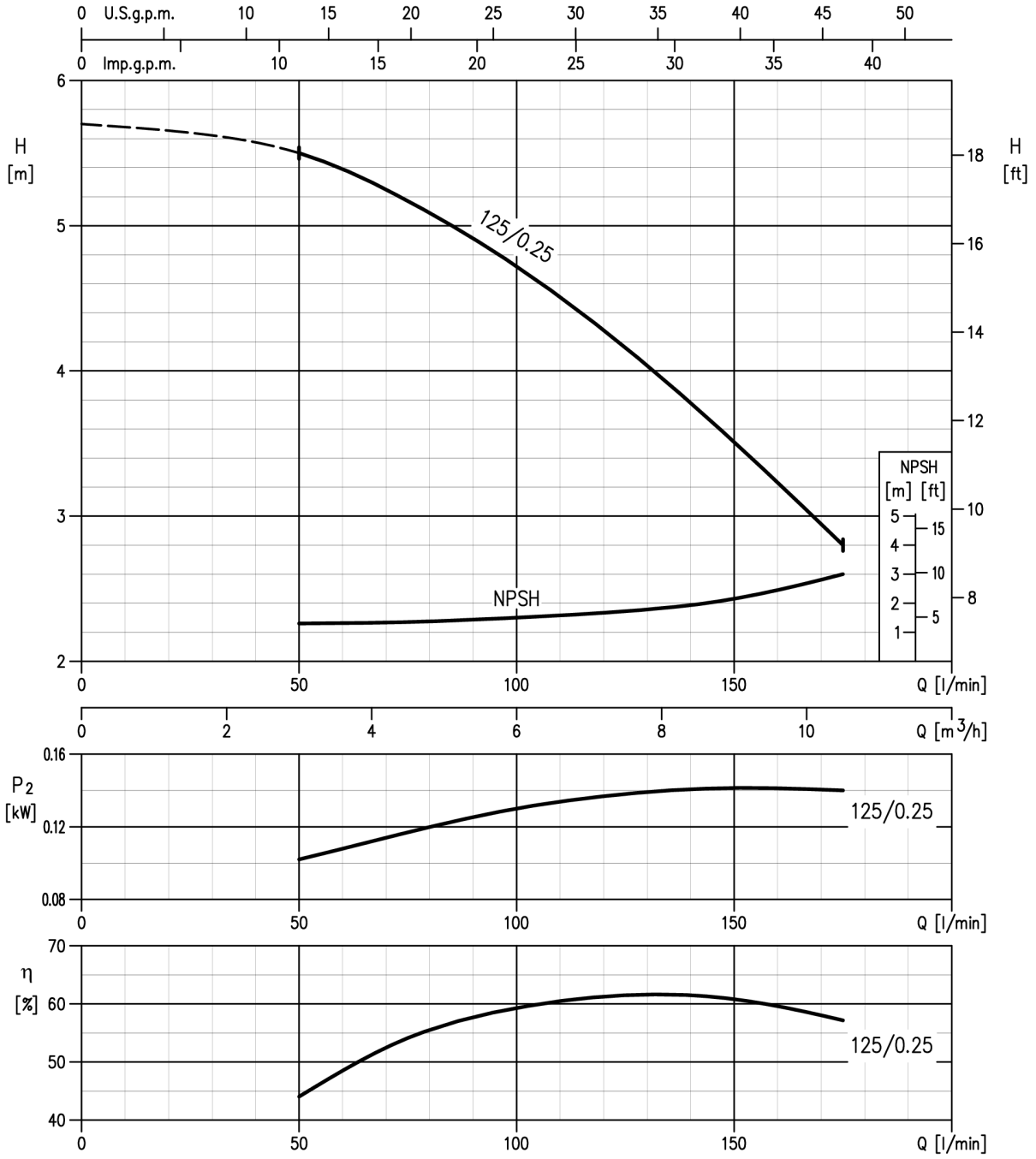


PERFORMANCE CURVE

50Hz

Rev. H

3(.)SF4 32-125/0.25 and **3(.)PF 32-125** (0.25kW) **MEI > 0.50** – impeller diameter = 133 mm



Rotation speed ≈ 1400 min^{-1}

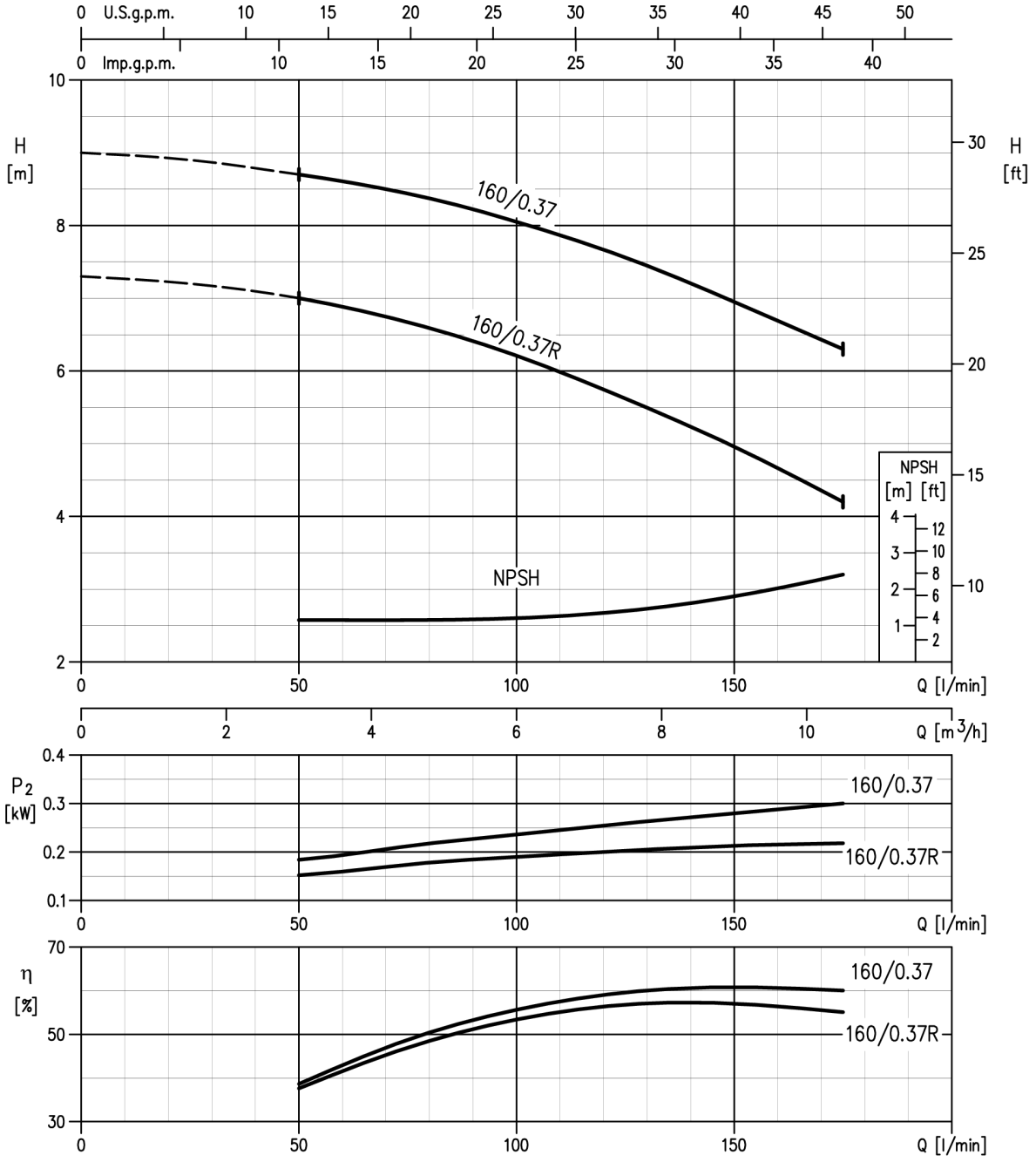
Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE

50Hz

Rev. H

3(.)SF4 32-160/0.37R and **3(.)PF 32-160/R** (0.37kW) **MEI > 0.70** – impeller diameter = 151 mm
3(.)SF4 32-160/0.37 and **3(.)PF 32-160** (0.37kW) **MEI > 0.70** – impeller diameter = 166 mm



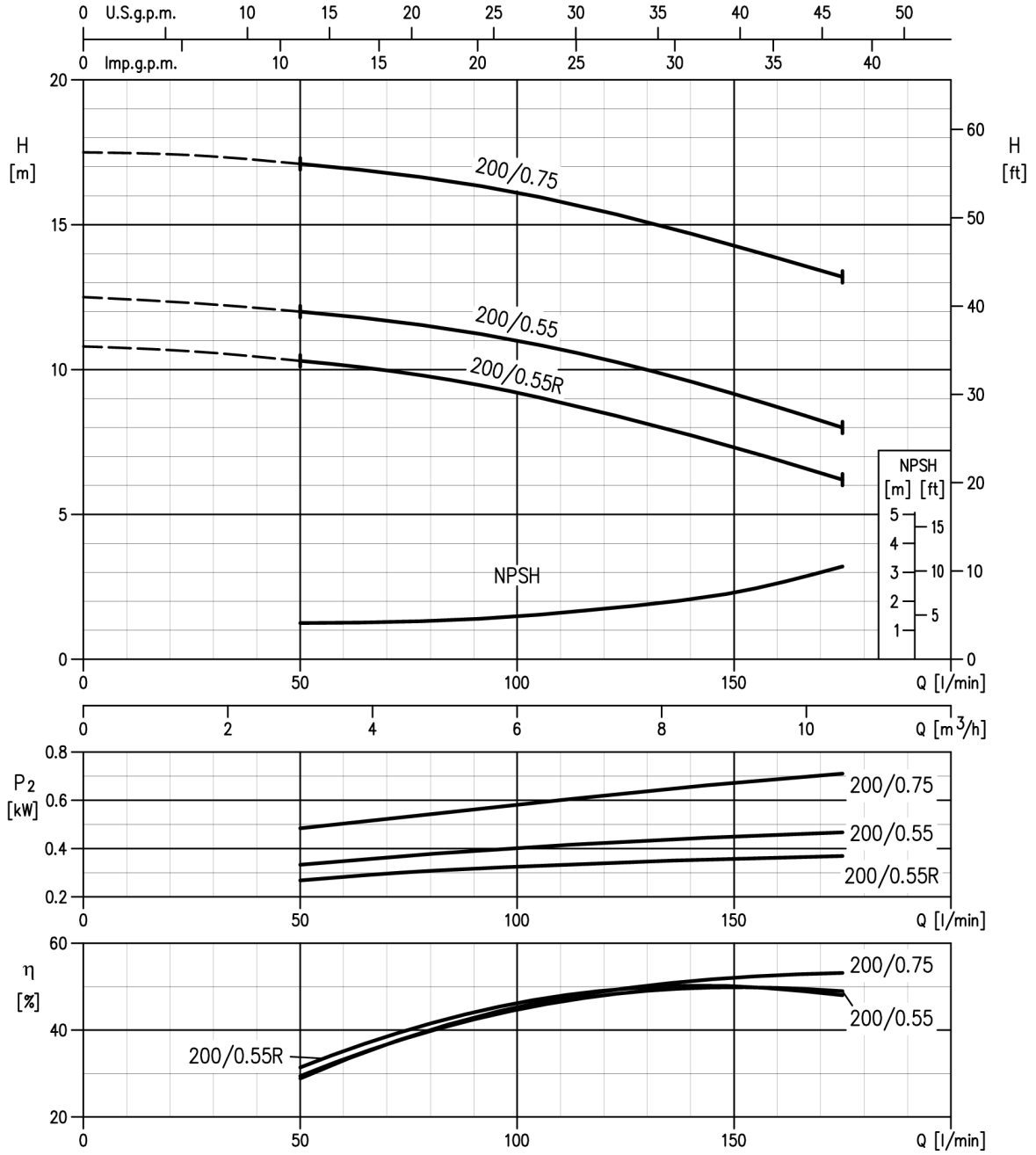
Rotation speed ≈ 1400 min^{-1}
Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE

50Hz

Rev. H

3(.)SF4 32-200/0.55R and **3(.)PF 32-200/R** (0.55kW) **MEI > 0.70** – impeller diameter = 186 mm
3(.)SF4 32-200/0.55 and **3(.)PF 32-200** (0.55kW) **MEI > 0.70** – impeller diameter = 200 mm
3(.)SF4 32-200/0.75 and **3(.)PF 32-200/L** (0.75kW) **MEI > 0.70** – impeller diameter = 224 mm



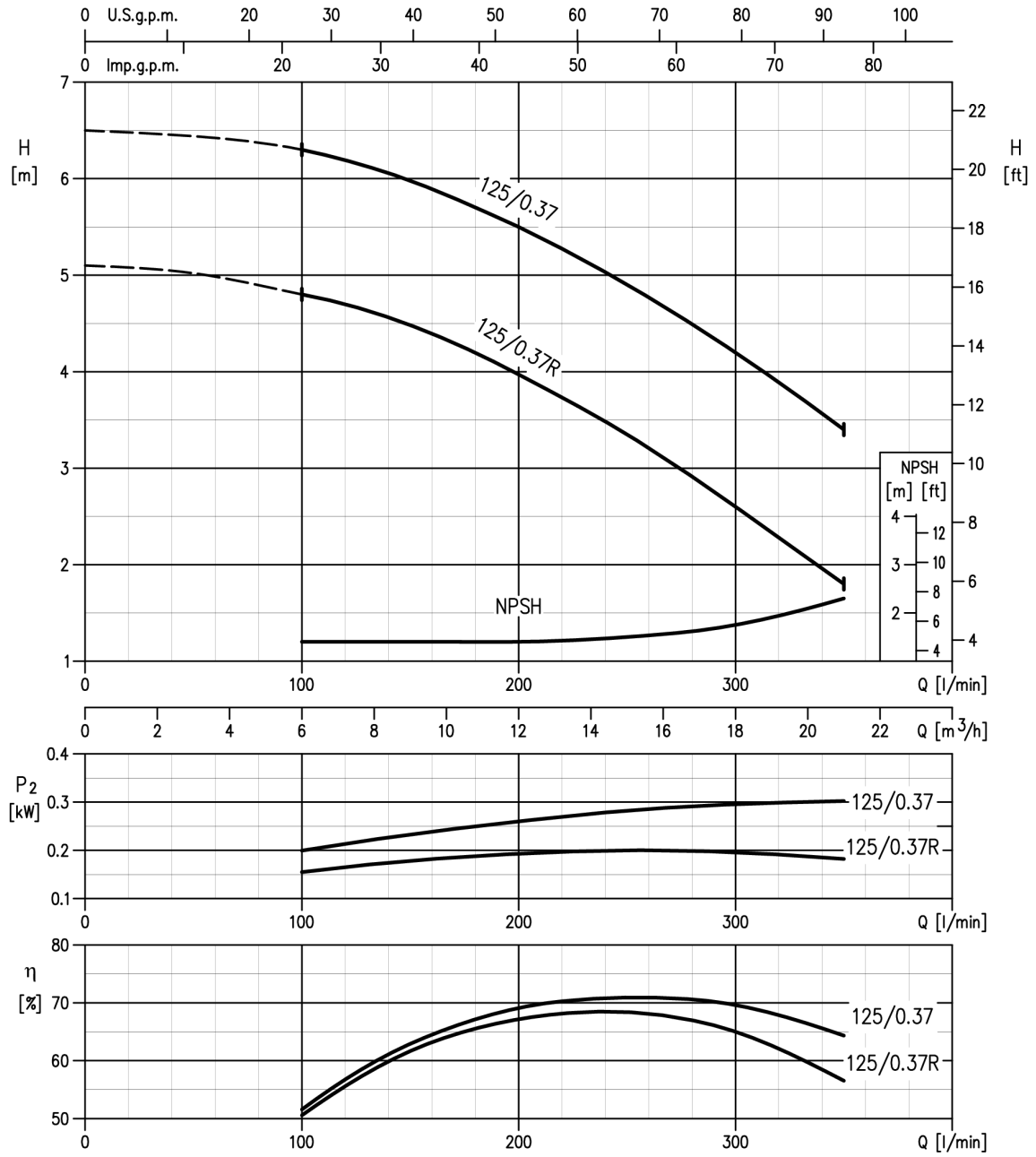
Rotation speed ≈ 1400 min^{-1}
Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE

50Hz

Rev. H

3(.)SF4 40-125/0.37R and **3(.)PF 40-125/R** (0.37kW) **MEI > 0.70** – impeller diameter = 125 mm
3(.)SF4 40-125/0.37 and **3(.)PF 40-125** (0.37kW) **MEI > 0.70** – impeller diameter = 140 mm



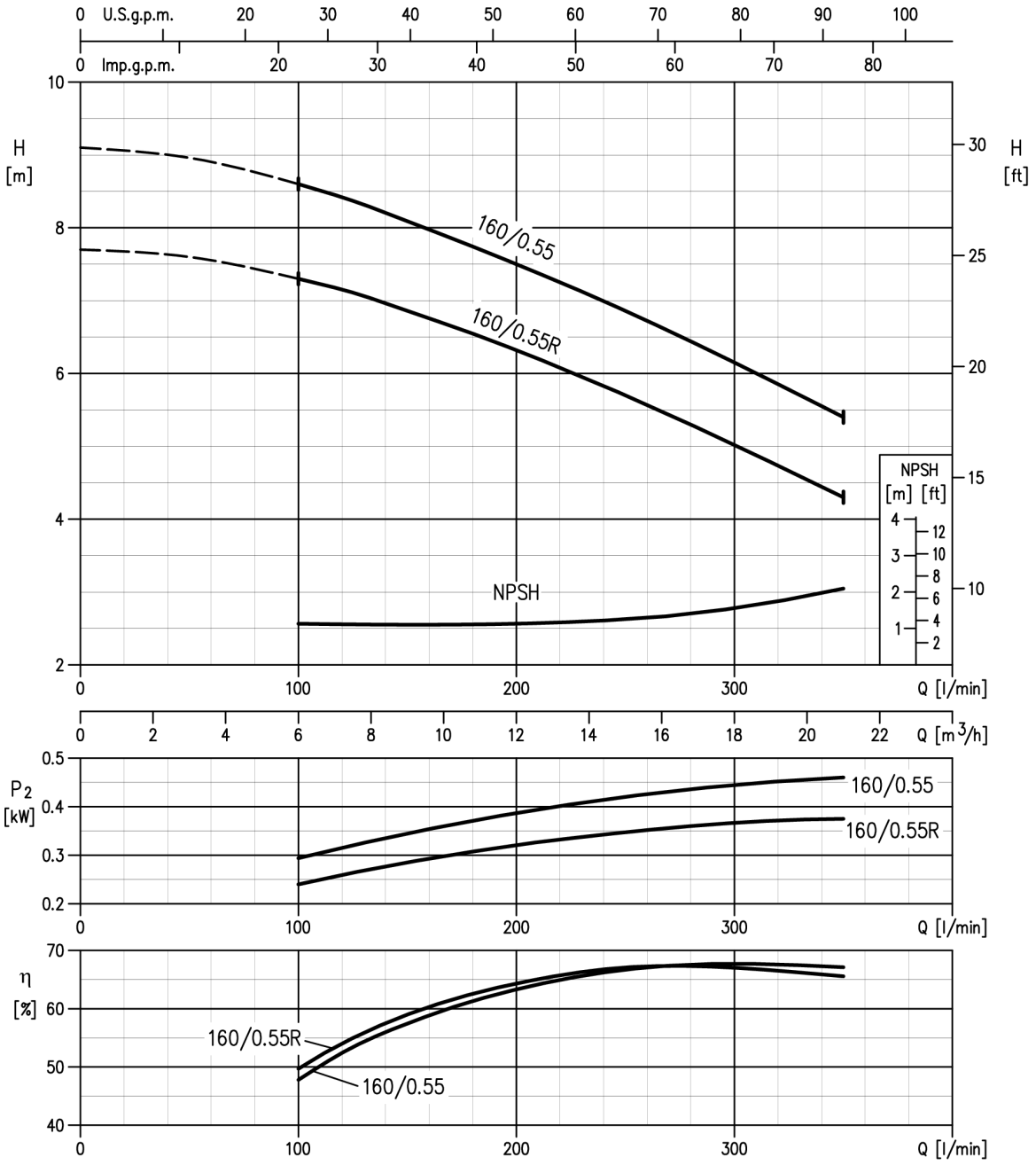
Rotation speed ≈ 1400 min^{-1}

Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE 50Hz

Rev. H

3(.)SF4 40-160/0.55R and **3(.)PF 40-160/R** (0.55kW) **MEI > 0.40**– impeller diameter = 151 mm
3(.)SF4 40-160/0.55 and **3(.)PF 40-160** (0.55kW) **MEI > 0.40**– impeller diameter = 166 mm



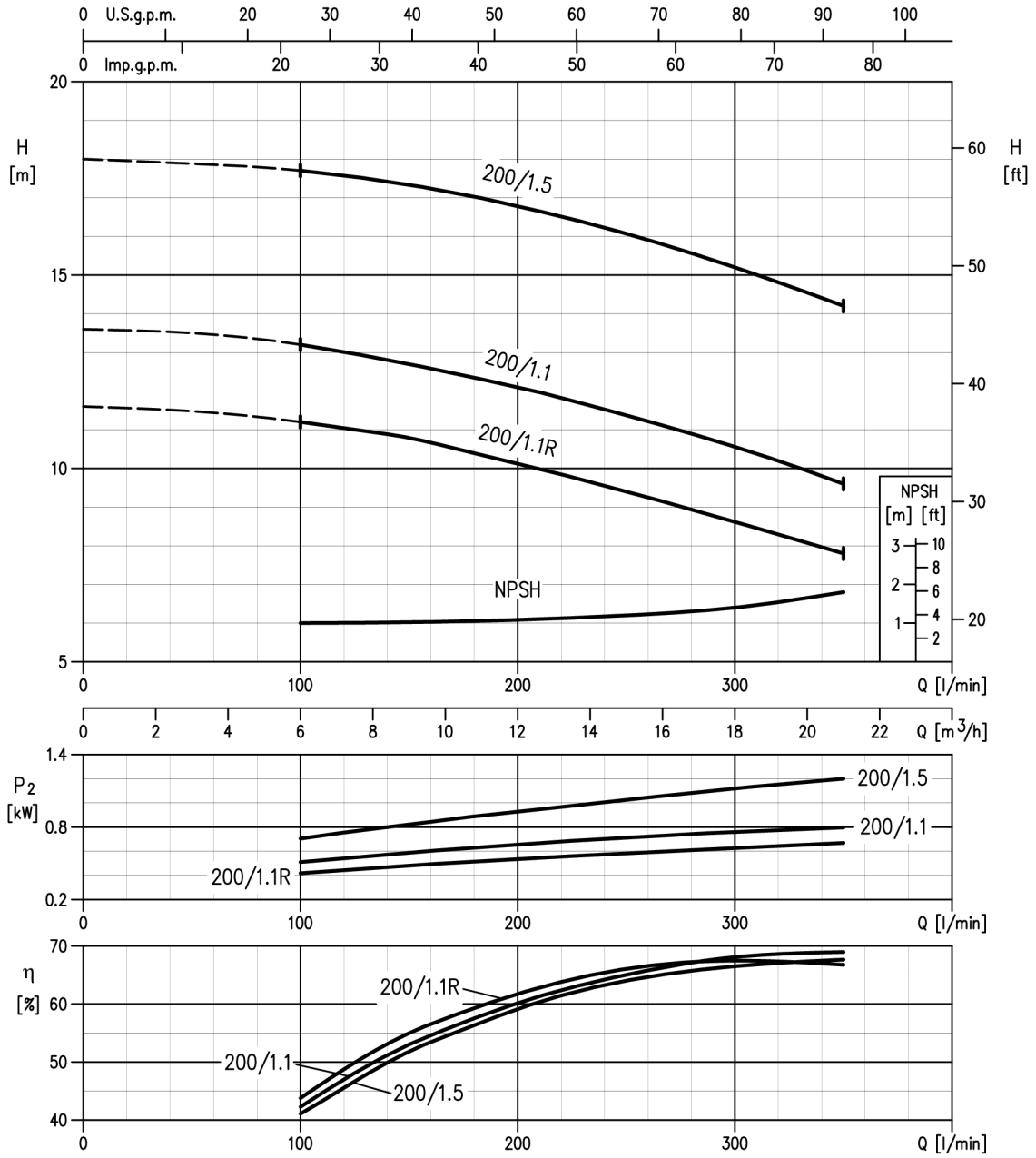
Rotation speed ≈ 1400 min^{-1}

Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE 50Hz

Rev. H

3(.)SF4 40-200/1.1R and **3(.)PF 40-200/R** (1.1kW) **MEI > 0.70** – impeller diameter = 183 mm
3(.)SF4 40-200/1.1 and **3(.)PF 40-200** (1.1kW) **MEI > 0.70** – impeller diameter = 200 mm
3(.)SF4 40-200/1.5 and **3(.)PF 40-200/L** (1.5kW) **MEI > 0.70** – impeller diameter = 224 mm



Rotation speed ≈ 1400 min^{-1}

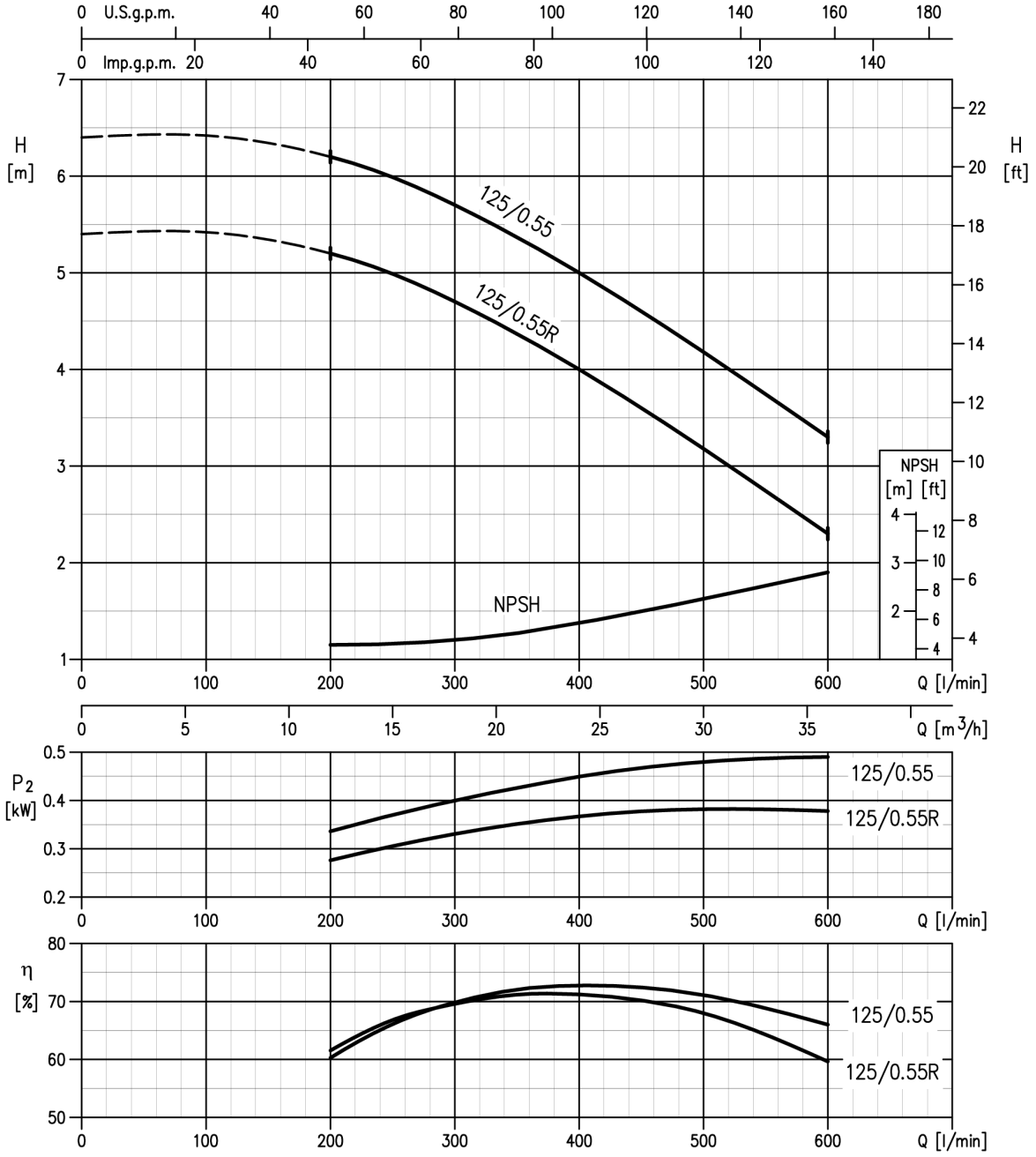
Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE

50Hz

Rev. H

3(.)SF4 50-125/0.55R and **3(.)PF 50-125/R** (0.55kW) **MEI > 0.40** – impeller diameter = 131 mm
3(.)SF4 50-125/0.55 and **3(.)PF 50-125** (0.55kW) **MEI > 0.40** – impeller diameter = 140 mm



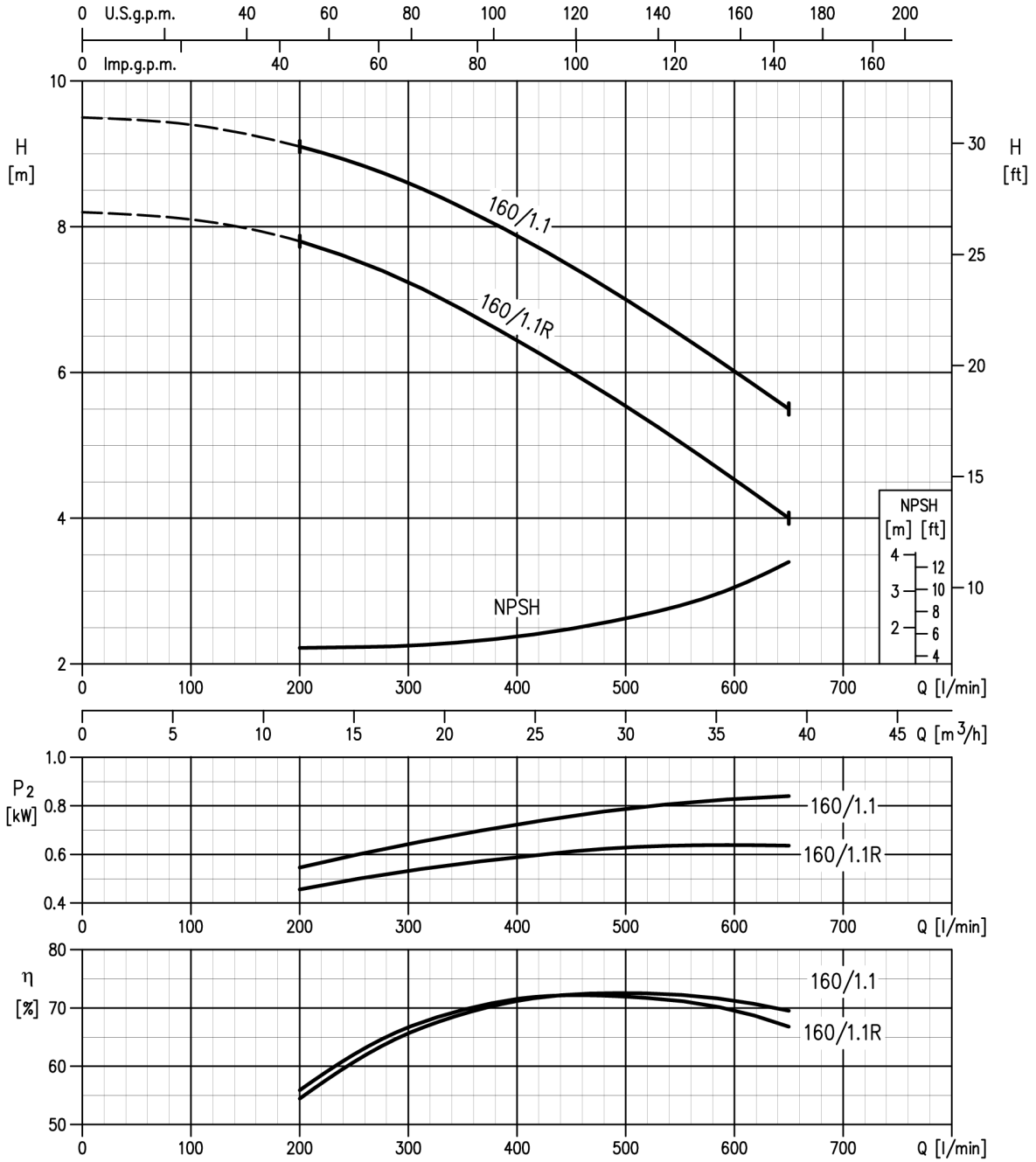
Rotation speed ≈ 1400 min^{-1}
Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE

50Hz

Rev. H

3(.)SF4 50-160/1.1R and **3(.)PF 50-160/R** (1.1kW) **MEI > 0.60** – impeller diameter = 154 mm
3(.)SF4 50-160/1.1 and **3(.)PF 50-160** (1.1kW) **MEI > 0.60** – impeller diameter = 166 mm



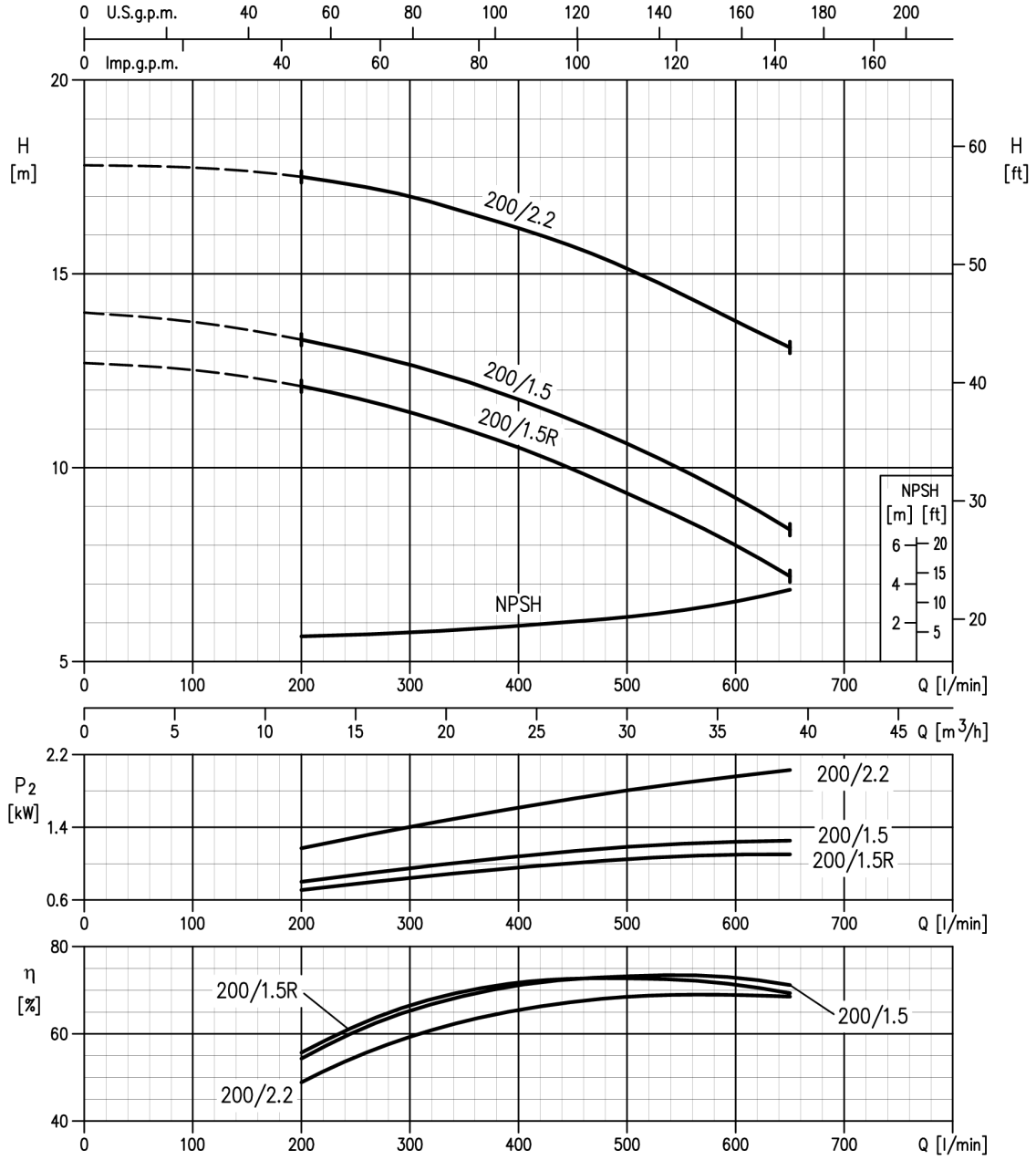
Rotation speed ≈ 1400 min^{-1}
Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE

50Hz

Rev. H

3(.)SF4 50-200/1.5R and **3(.)PF 50-200/R** (1.5kW) **MEI > 0.60** – impeller diameter = 191 mm
3(.)SF4 50-200/1.5 and **3(.)PF 50-200** (1.5kW) **MEI > 0.60** – impeller diameter = 200 mm
3(.)SF4 50-200/2.2 and **3(.)PF 50-200/L** (2.2kW) **MEI > 0.60** – impeller diameter = 224 mm



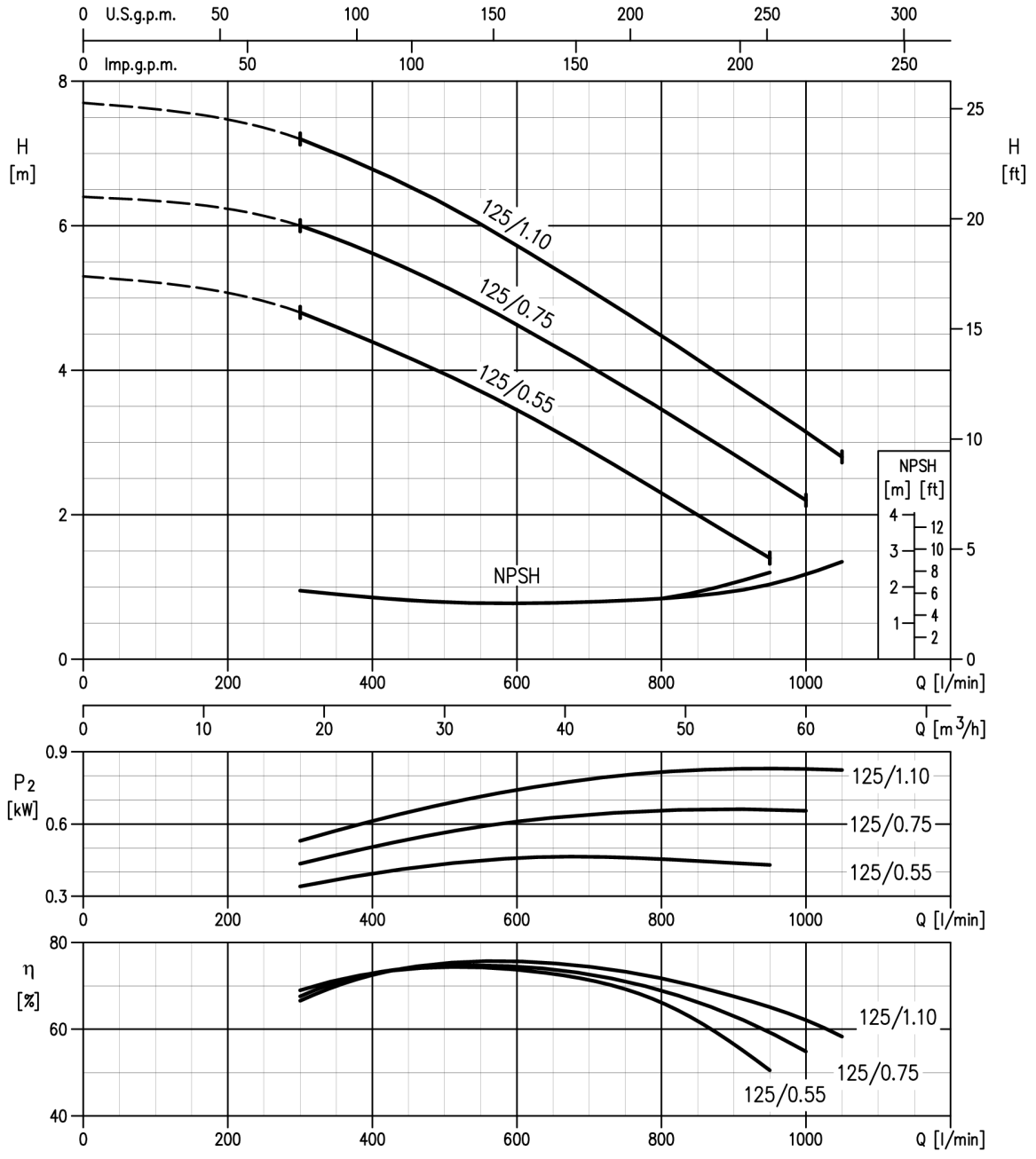
Rotation speed ≈ 1400 min^{-1}

Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE 50Hz

Rev. H

3(.)SF4 65-125/0.55 and **3(.)PF 65-125/R** (0.55kW) **MEI > 0.50** – impeller diameter = 128 mm
3(.)SF4 65-125/0.75 and **3(.)PF 65-125** (0.75kW) **MEI > 0.50** – impeller diameter = 138 mm
3(.)SF4 65-125/1.1 and **3(.)PF 65-125/L** (1.10kW) **MEI > 0.50** – impeller diameter = 149 mm



Rotation speed ≈ 1400 min^{-1}

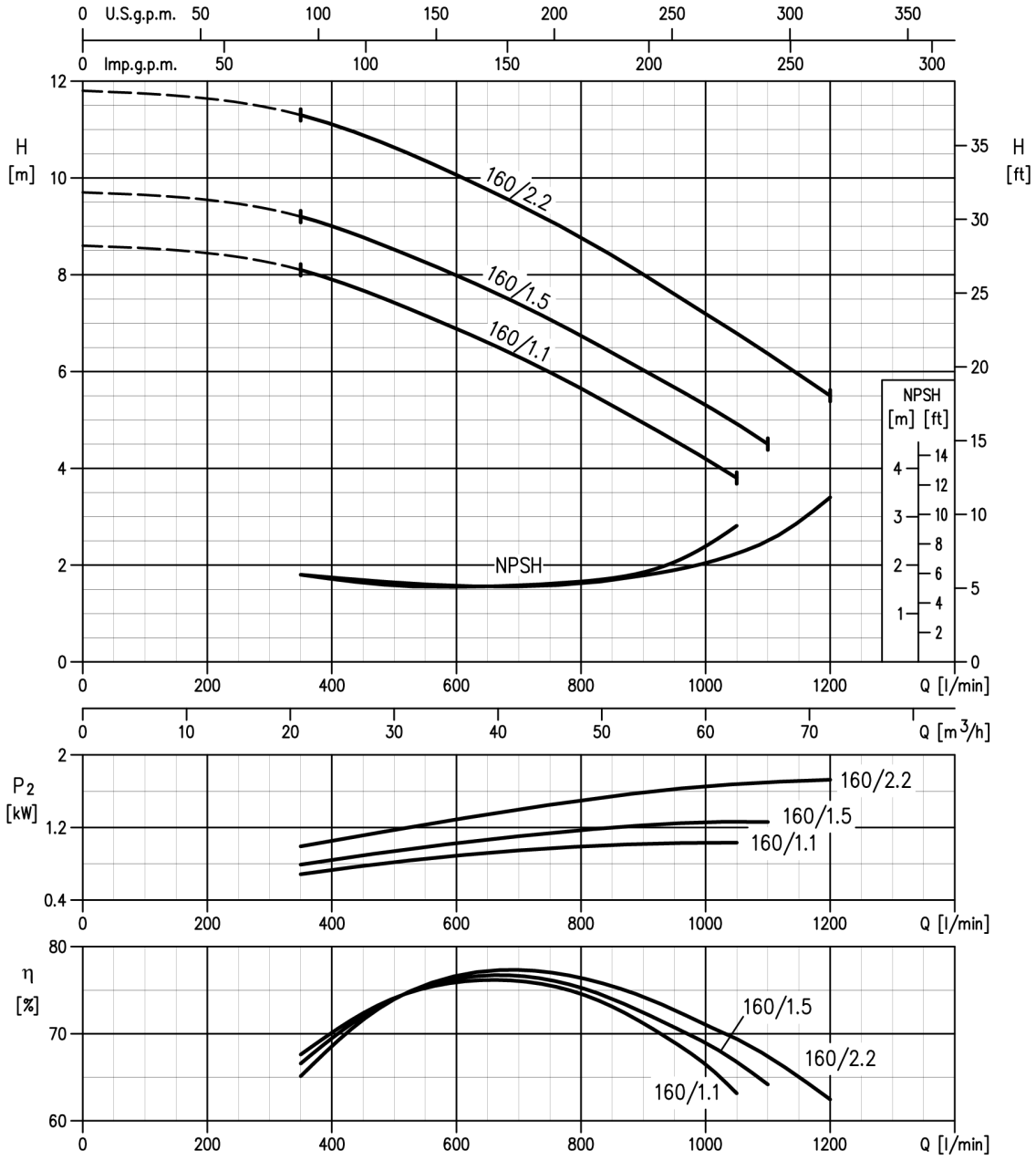
Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE

50Hz

Rev. H

3(.)SF4 65-160/1.1 and **3(.)PF 65-160/R** (1.1kW) **MEI > 0.70** – impeller diameter = 161 mm
3(.)SF4 65-160/1.5 and **3(.)PF 65-160** (1.5kW) **MEI > 0.70** – impeller diameter = 168 mm
3(.)SF4 65-160/2.2 and **3(.)PF4 65-160/L** (2.2kW) **MEI > 0.70** – impeller diameter = 178 mm



Rotation speed ≈ 1400 min^{-1}

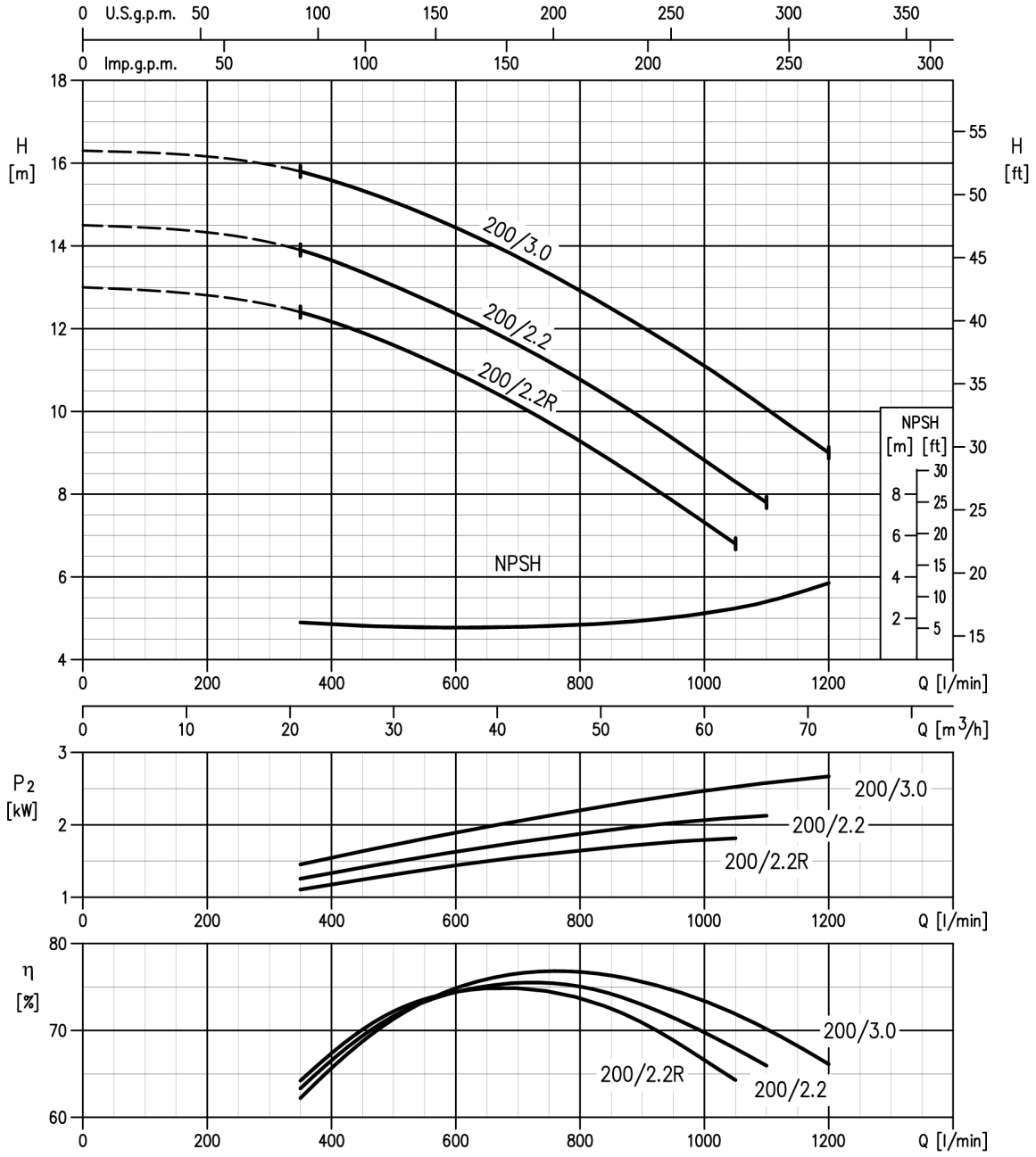
Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE

50Hz

Rev. H

3(.)SF4 65-200/2.2R and **3(.)PF4 65-200/R** (2.2kW) **MEI > 0.70** – impeller diameter = 190 mm
3(.)SF4 65-200/2.2 and **3(.)PF4 65-200** (2.2kW) **MEI > 0.70** – impeller diameter = 201 mm
3(.)SF4 65-200/3 and **3(.)PF4 65-200/L** (3.0kW) **MEI > 0.70** – impeller diameter = 212 mm



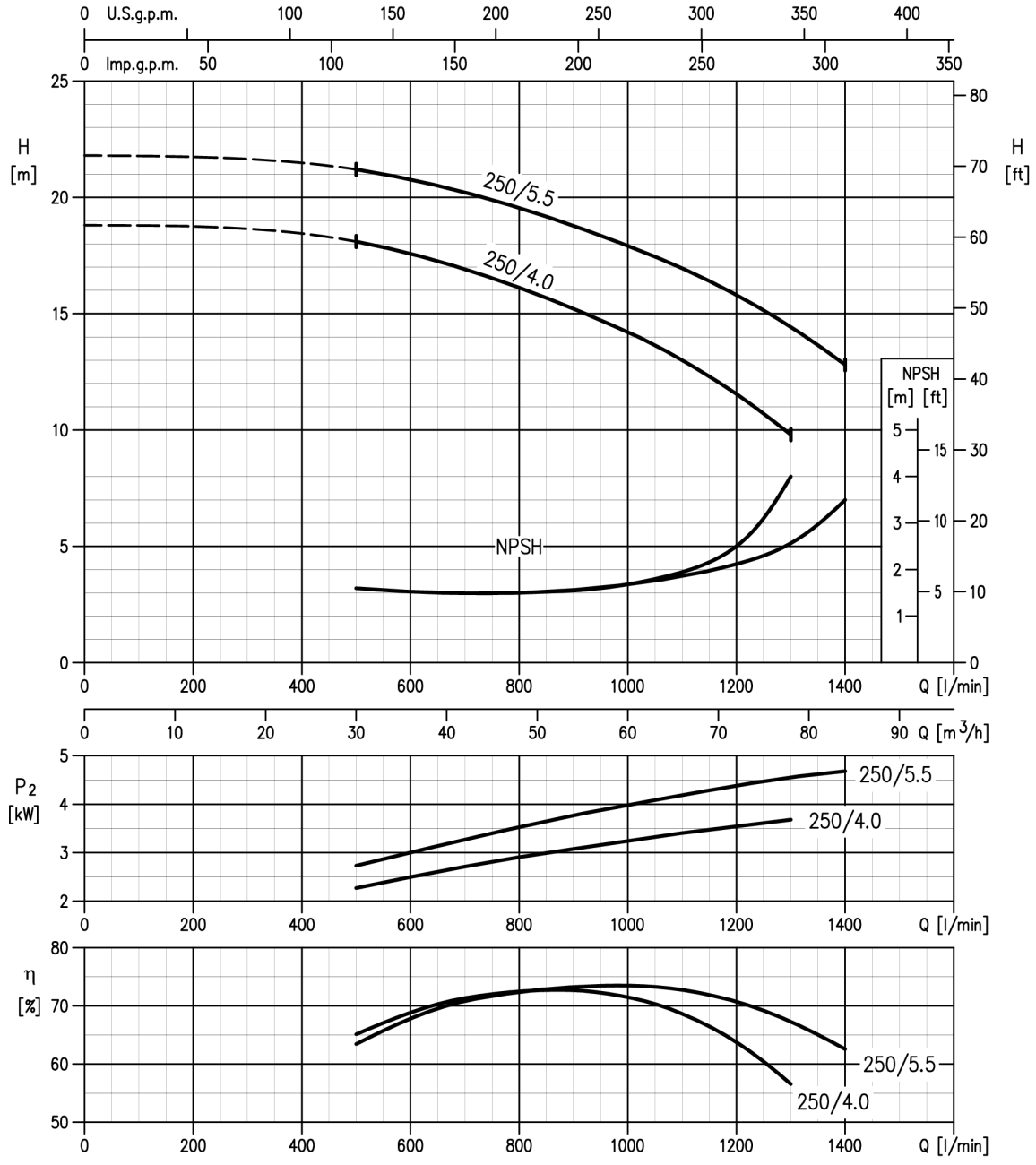
Rotation speed ≈ 1400 min^{-1}
Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE

50Hz

Rev. H

3LSF4 65-250/4 and **3LPF 65-250** (4.0kW) **MEI > 0.50**– impeller diameter = 235 mm
3LSF4 65-250/5.5 and **3LPF 65-250/L** (5.5kW) **MEI > 0.50**– impeller diameter = 250 mm



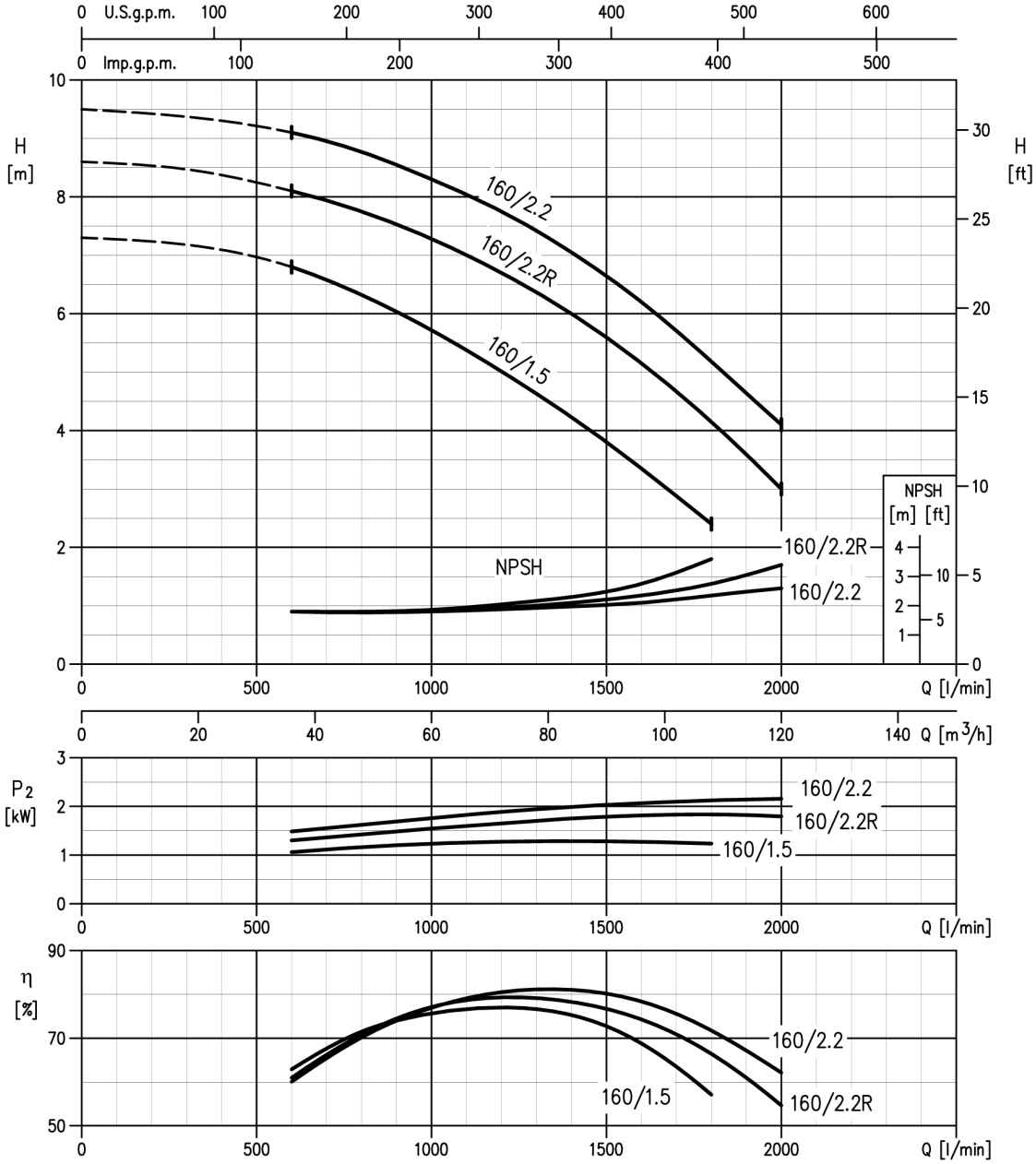
Rotation speed ≈ 1400 min^{-1}
Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE

50Hz

Rev. H

3LSF4 80-160/1.5 and **3LPF4 80-160/R** (1.5kW) **MEI > 0.60** – impeller diameter = 156 mm
3LSF4 80-160/2.2R and **3LPF4 80-160** (2.2kW) **MEI > 0.60** – impeller diameter = 165 mm
3LSF4 80-160/2.2 and **3LPF4 80-160/L** (2.2kW) **MEI > 0.60** – impeller diameter = 174 mm



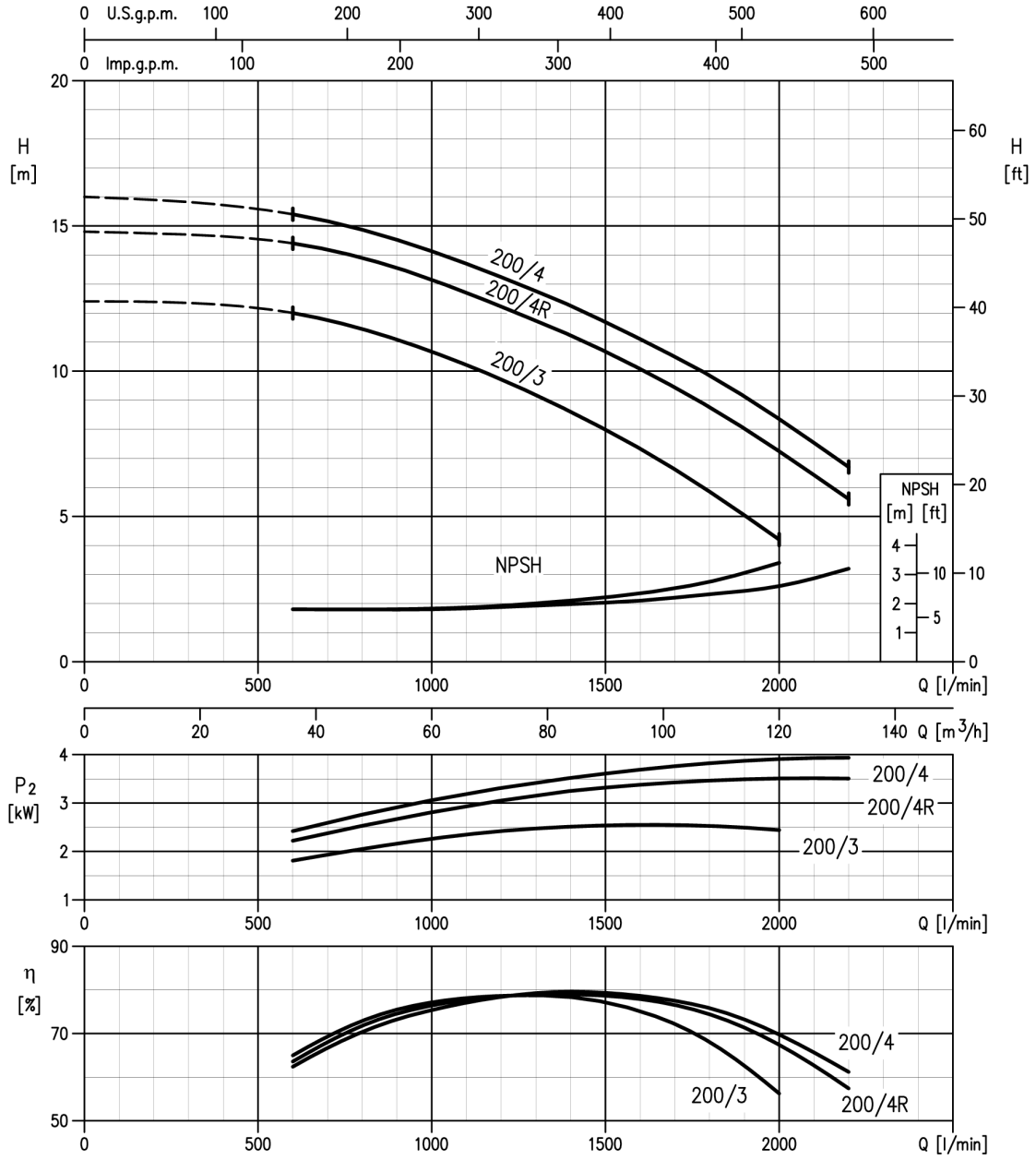
Rotation speed ≈ 1400 min^{-1}
Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE

50Hz

Rev. H

3LSF4 80-200/3 and **3LPF 80-200/R** (3.0kW) **MEI > 0.40** – impeller diameter = 196 mm
3LSF4 80-200/4R and **3LPF 80-200** (4.0kW) **MEI > 0.40** – impeller diameter = 211 mm
3LSF4 80-200/4 and **3LPF 80-200/L** (4.0kW) **MEI > 0.40** – impeller diameter = 219 mm



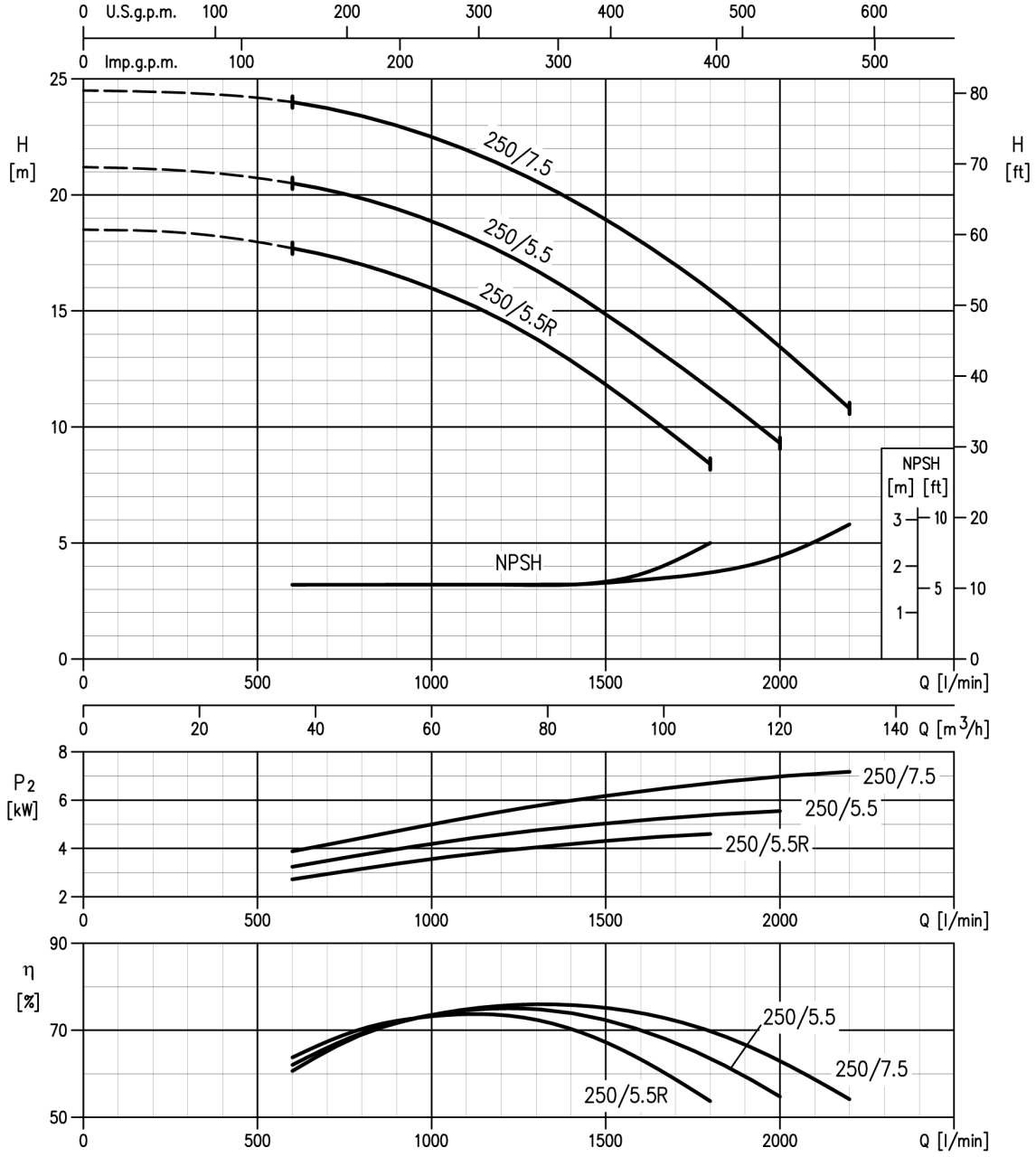
Rotation speed ≈ 1400 min^{-1}
Test standard: ISO 9906:2012 - Grade 3B
3LSF4 80-250/5.5R and **3LPF4 80-250/R** (5.5kW) – impeller diameter = 230 mm

PERFORMANCE CURVE

50Hz

Rev. H

3LSF4 80-250/5.5 and **3LPF4 80-250** (5.5kW) **MEI > 0.60** – impeller diameter = 246 mm
3LSF4 80-250/7.5 and **3LPF4 80-250/L** (7.5kW) **MEI > 0.60** – impeller diameter = 263 mm



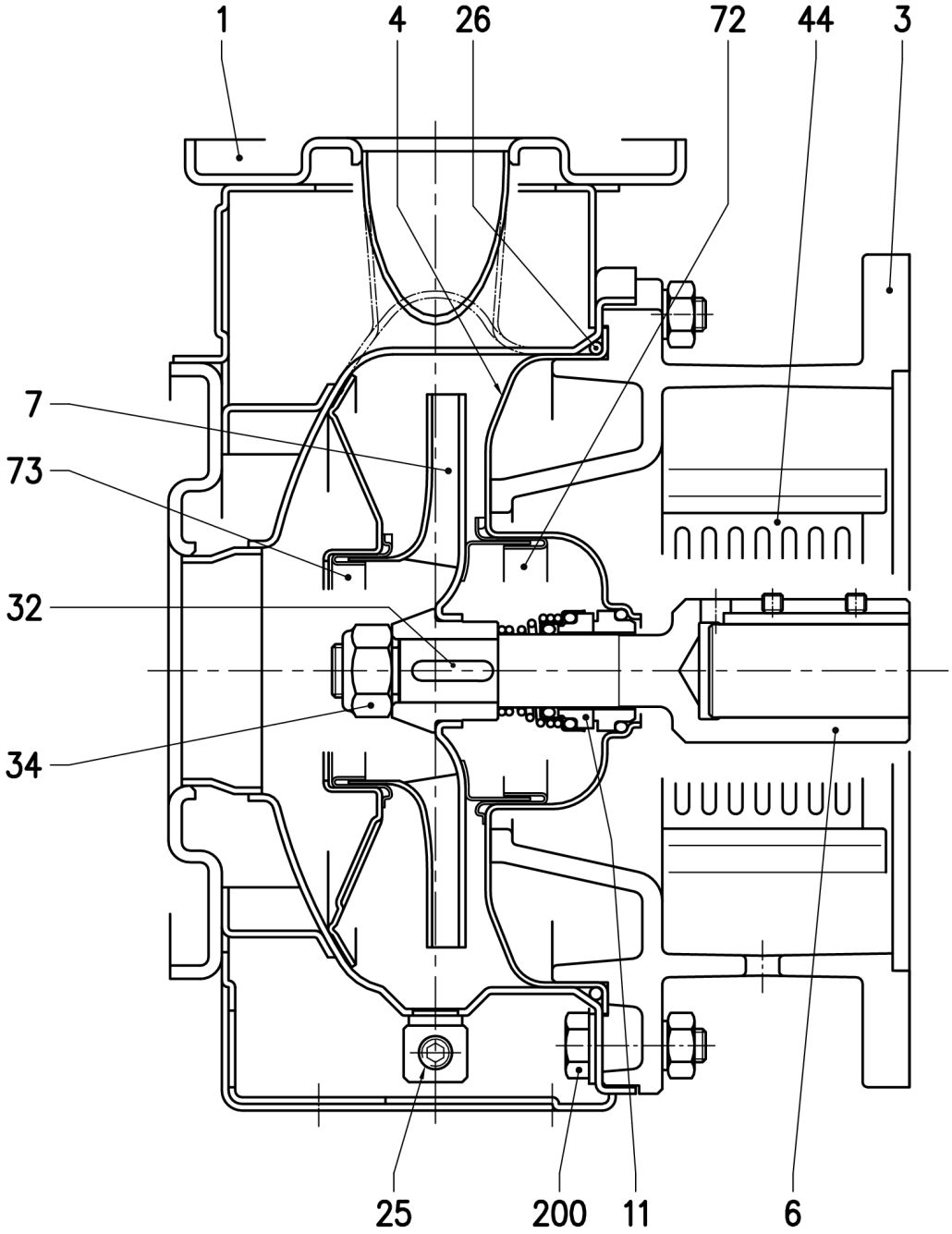
Rotation speed ≈ 1400 min^{-1}
Test standard: ISO 9906:2012 - Grade 3B

CONSTRUCTIONS

50Hz

Rev. H

SECTIONAL VIEW DRAWING
3(.)SF4 32, 40, 50, 65



CONSTRUCTIONS

50Hz

Rev. H

SECTIONAL VIEW TABLE
3(.)SF4 32, 40, 50, 65

N°	PART NAME		MATERIAL 3SF4	MATERIAL 3LSF4	DIMENSIONS	STANDARD	Q.TY
1	Casing		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
3	Motor bracket		Cast iron EN-G JL-200-EN 1561				1
4	Casing cover		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
6	Coupling - Part in contact with liquid		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)	See table p. 318		1
7	Impeller	32, 40, 50	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
		65-125/160/200	EN 1.4401 (AISI 316)				
11	Mechanical seal		Carbon/Ceramic/NBR	SiC/SiC/FPM	See p.313÷317		1
25	Draing plug		EN 1.4401 (AISI 316) / PTFE		R 1/8" L=8	DIN 906	1
26	"O" ring	32-125, 40-125	NBR [3]	FPM	158.11x5.34	OR 6625	1
		32-160, 40-160 , 50-125, 65-125			183.52x5.34	OR 6720	
		32-200, 40-200, 50-160, 50-200, 65-160, 65-200			227.96x5.34	OR 6895	
32	Key		EN 1.440 1 (AISI 316)		6x6x25	UNI 6604	1
34	Impeller nut	Other model	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)	M16x1.5	UNI 7474	1
		50-200/2.2			M18x1.5		
44	Protection		EN 1.430 1 (AISI 304)			EBARA DRAWING	2
72	Casing ring (not for 65 version) [1]		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
73	Casing ring (not for 65 version)		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
200	Screw	32-125, 40-125	Stainless steel A2 70 class ISO 3506/1		M 8x30	UNI 5739	8
		40-160, 40-200 , 50-125, 50-160, 50-200, 65-125 , 65-160, 65-200			M 10x35	UNI 5739	[2]

Counterflange kit on request see p. 319-320

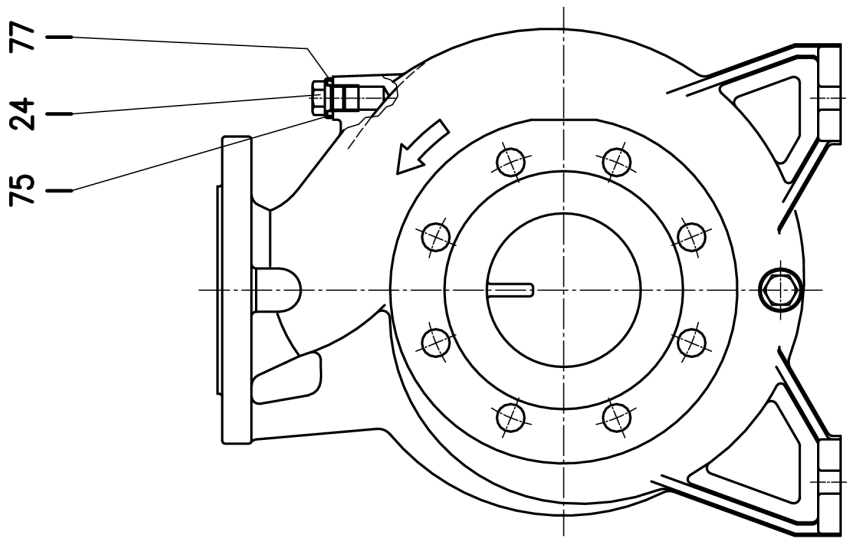
[1] Only for version 32-200, 40-200, 50-160, 50-200
[2] N° for 1 unit=10 for 32-160, 40-160, 50-125, 65-125
N° for 1 unit=12 for 32-200, 40-200, 50-160, 50-200, 65-160, 65-200
[3] FPM for H-HS-HW-HSW version
EPDM for E version , Q1AEGG, U3U3EGG, Q1Q1EGG, Q1U3EGG, U3CEGG

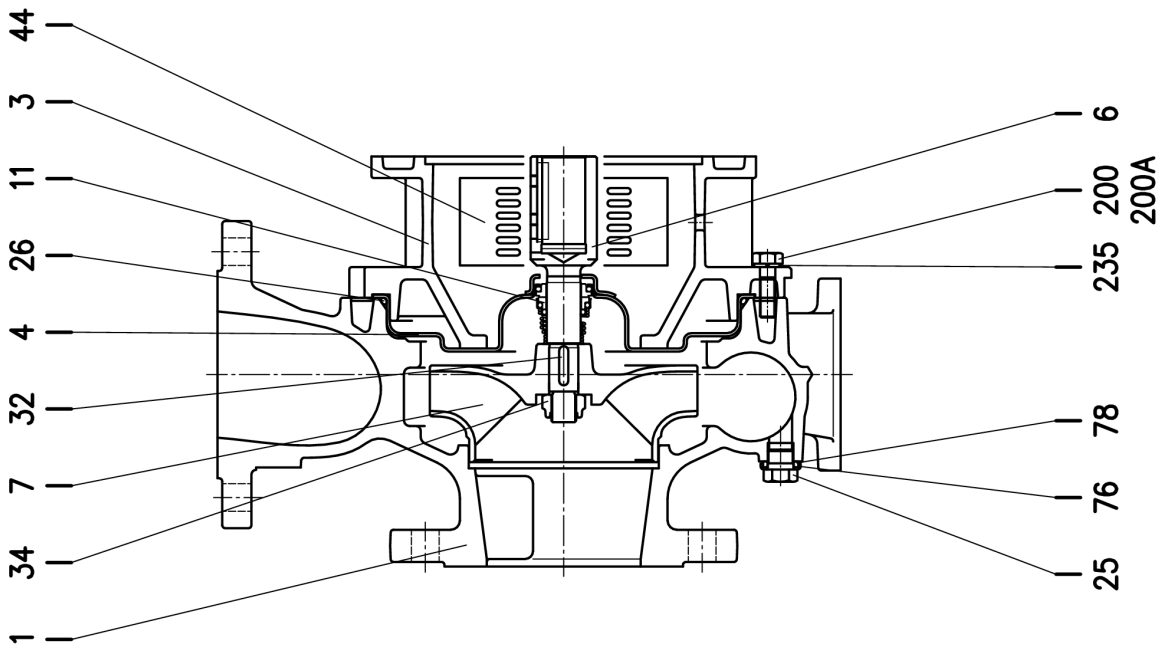
CONSTRUCTIONS

50Hz

Rev. H

SECTIONAL VIEW DRAWING
3LSF4 80-160





CONSTRUCTIONS

50Hz

Rev. H

SECTIONAL VIEW TABLE
3LSF4 80-160

N°	PART NAME	MATERIAL	DIMENSIONS	STANDARD	Q.TY
1	Casing	EN 1.4401 (AISI 316)			1
3	Motor bracket	Cast iron EN-GJL-200-EN 1561			1
4	Casing cover	EN 1.4404 (AISI 316L)			1
6	Coupling	EN 1.4404 (AISI 316L)	See table p. 318		1
7	Impeller	EN 1.4401 (AISI 316)			1
11	Mechanical seal	SiC/SiC/FP	See p. 313÷317		1
24	Plug	EN 1.4404 (AISI 316L)	G3/8	EPE DRAWING	1
25	Plug		G3/8	EPE DRAWING	1
26	"O" ring	FPM [1]	227.96x5.34	OR 6895	1
32	Key	EN 1.4401 (AISI 316)	6x6x25	UNI 6604	1
34	Impeller nut	EN 1.4404 (AISI 316L)	M16x1.5	UNI 7474	1
44	Protection	EN 1.4301 (AISI 304)		EPE DRAWING	2
75	Washer (plug)	EN 1.4404 (AISI 316L)			1
76	Washer (plug)				1
77	O-ring (plug)	FPM [1]			1
78	O-ring (plug)				1
200	Screw	Stainless steel A2-70 class ISO 3506/1	M 10x35	UNI 5739	10
200A	Screw		M 10x30		2
235	Washer	EN 1.4301(AISI 304)	10,5	UNI 8842	12

Counterflange kit on request, see table p. 319-320

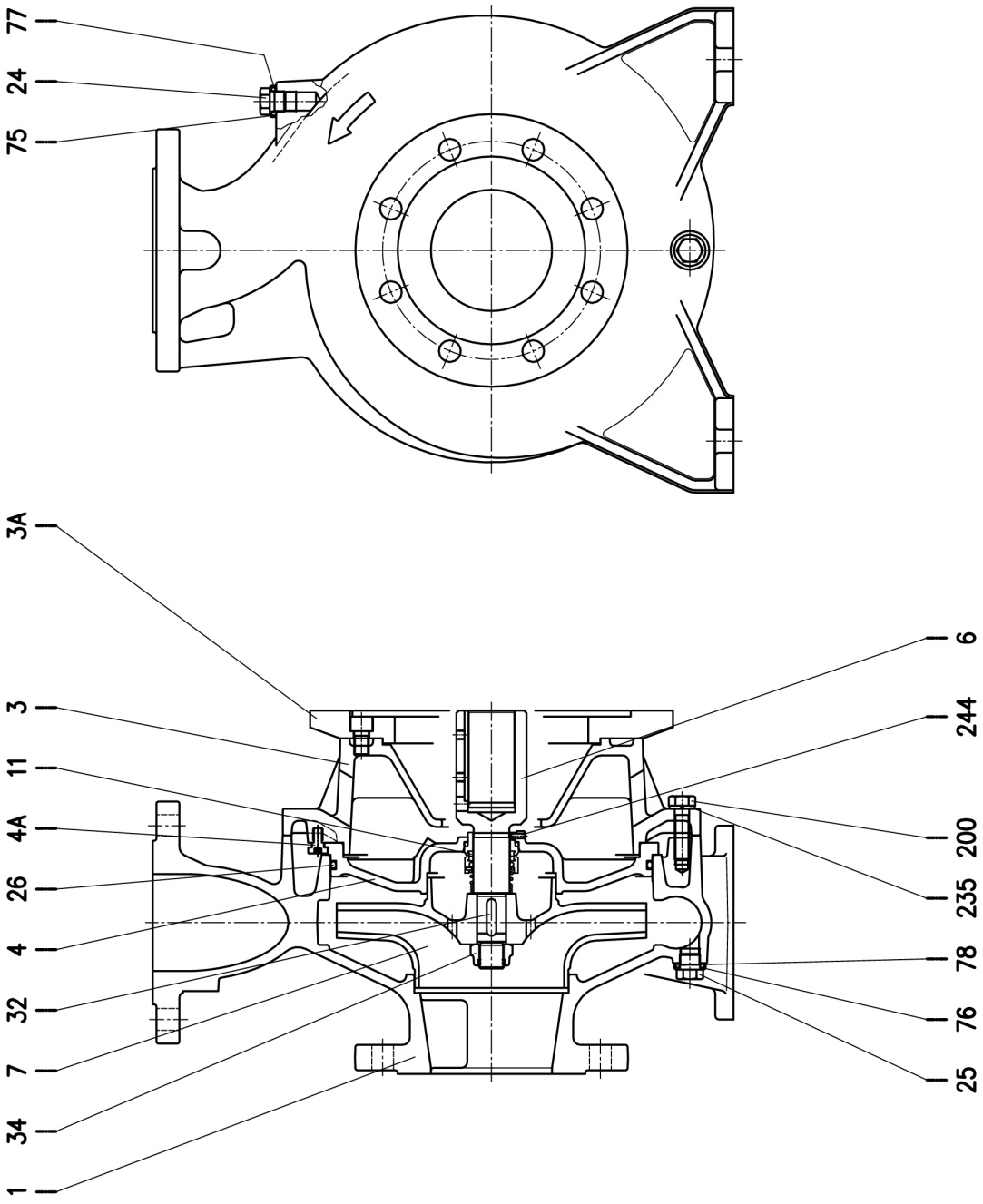
[1] FPM for H-HW-HSW option
EPDM for E version, U3U3EGG, Q1AEGG, Q1Q1EGG, Q1U3EGG, U3CEGG

CONSTRUCTIONS

50Hz

Rev. H

SECTIONAL VIEW DRAWING
3LSF4 65-250, 80



CONSTRUCTIONS 50Hz

Rev. H

SECTIONAL VIEW TABLE
3LSF4 65-250, 80

N°	PART NAME	MATERIAL	DIMENSIONS	STANDARD	Q.TY
1	Casing	EN 1.4401 (AISI 316)			1
3	Motor bracket	Cast iron EN-GJL-200-EN 1561			1
3A	Adapter ring [1]	Cast iron EN-GJL-200-EN 1561			1
4	Casing cover	EN 1.4401 (AISI 316)			1
4A	Screw for casing cover	EN 1.4301(AISI 304)			2
6	Coupling	EN 1.4404 (AISI 316L)	See table p. 318		1
7	Impeller	EN 1.4401 (AISI 316)			1
11	Mechanical seal	SiC/SiC/FPM	See p. 313÷317		1
24	Plug	EN 1.4404 (AISI 316L)	G3/8	EPE DRAWING	1
25	Plug		G3/8	EPE DRAWING	1
26	"O" ring	FPM [3]	253.36x5.34	OR 6995	1
32	Key	EN 1.4401 (AISI 316)	8x7x30	UNI 6604	1
34	Impeller nut	EN 1.4404 (AISI 316L)	M20x1.5	UNI 7474	1
75	Washer (plug)	EN 1.4404 (AISI 316L)			1
76	Washer (plug)				
77	O-ring (plug)	FPM [3]			1
78	O-ring (plug)				1
200	Screw	Stainless steel A2-70 class ISO 3506/1	M 12x45	UNI 5739	10
235	Washer	EN 1.4301(AISI 304)	13	UNI 8842	10
244	Pin [2]	EN 1.4301(AISI 304)	4x12		1

Counterflange kit on request, see table p. 319-320

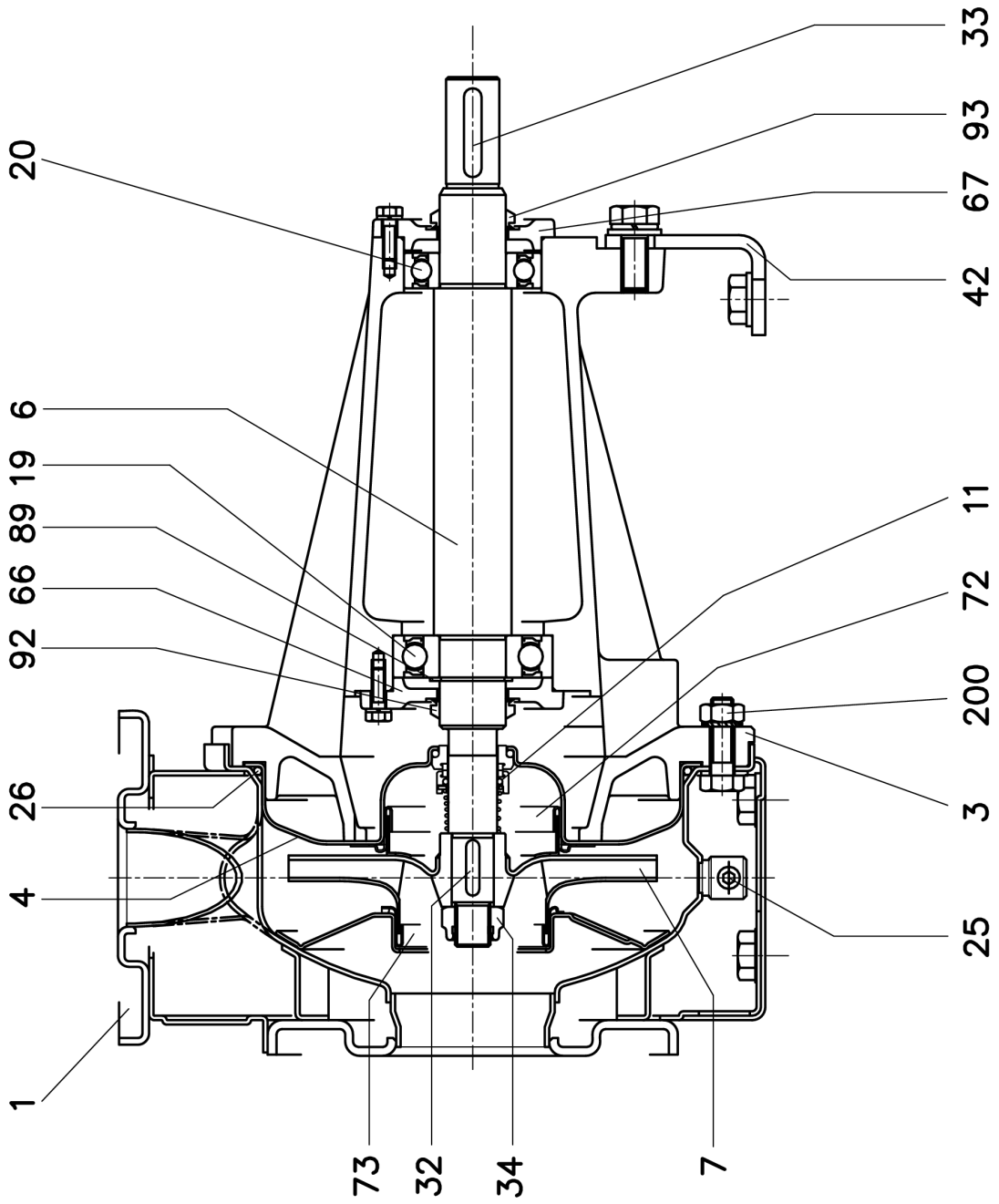
[1] Only for 65-250/5.5kW
[2] Not for H and E option
[3] FPM for H-HW-HSW option
EPDM for E version, Q1AEGG, Q1Q1EGG, Q1U3EGG, U3CEGG

CONSTRUCTIONS

50Hz

Rev. H

SECTIONAL VIEW DRAWING
3(.)PF4 32, 40, 50, 65



CONSTRUCTIONS

50Hz

Rev. H

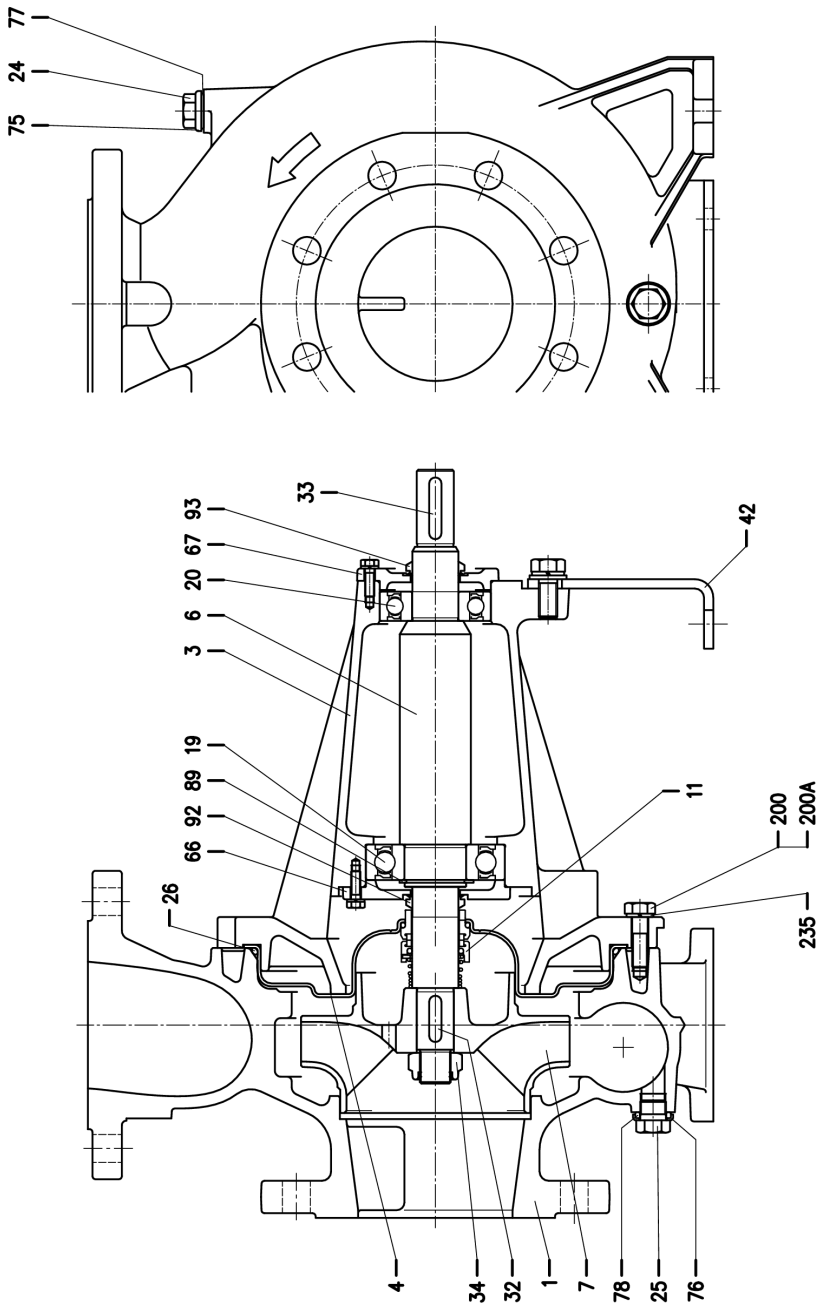
SECTIONAL VIEW TABLE
3(.)PF4 32, 40, 50, 65

N°	PART NAME		MATERIAL 3PF(4)	MATERIAL 3LPF(4)	DIMENSIONS	STANDARD	Q.TY
1	Casing		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
3	Support		Cast iron EN-GJL-200-EN 1561				1
4	Casing cover		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
6	Shaft - Part in contact with liquid		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
7	Impeller	32-40-50	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
		65-125/160/200	EN 1.440 1 (AISI 316)				
11	Mechanical seal		Carbon/Ceramic/NBR	SiC/SiC/FPM	See p. 313÷317		1
19	Bearing		-		See table p. 312		1
20	Bearing		-		See table p. 312		1
25	Draning plug		EN 1.4401 (AISI 316) / PTFE		R 1/8" L=8	DIN 906	1
26	"O" ring	32-125, 40-125	NBR [3]	FPM	158.11x5.34	OR 6625	1
		32-160, 40-160, 50-125, 65-125			183.52x5.34	OR 6720	
		32-200, 40-200, 50-160, 50-200, 65-160, 65-200			227.96x5.34	OR 6895	
32	Key		EN 1.4401 (AISI 316)		6x6x25	UNI 6604	1
33	Key		C 40		8x7x40	UNI 6604	1
34	Impeller nut	Other model	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)	M16x1.5	UNI 7474	1
		50-200/2.2			M18x1.5		
42	Pump support		Zinc-coated steel			EBARA DRAWING	1
66	Impeller side beari ng cover		Cast iron EN-GJL-200-EN 1561				1
67	Motor side bearing cover		Cast iron EN-GJL-200-EN 1561				1
72	Casing ring (not fo r 65 version) [1]		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
73	Casing ring (not fo r 65 version)		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
89	Snap ring	32-125, 32-160, 40-125, 50-125	Carbon tool steel TC 80		Ø30	UNI 7435	1
		Other model			Ø40		
92	"V" ring		-		VS - 0030		1
93	"V" ring		-		VS - 0030		1
200	Screw	32-125, 40-125	Stainless steel A2 70 class ISO 3506/1		M 8x30	UNI 5739	8
		40-160, 40-200, 50-125, 50-160, 50-200, 65-125, 65-160, 65-200			M 10x35	UNI 5739	[2]

Counterflange kit on request see p. 319-320

[1] For version: 32-200, 40-200, 50-160, 50-200
[2] N° for 1 unit=10 for 32-160, 40-160, 50-125, 65-125
N° for 1 unit=12 for 32-200, 40-200, 50-160, 50-200, 65-160, 65-200
[3] FPM for H-HS-HW-HSW option
EPDM for E version, Q1AEGG, U3U3EGG, Q1Q1EGG, Q1U3EGG, U3CEGG

SECTIONAL VIEW DRAWING
3LPF4 80-160



CONSTRUCTIONS

50Hz

Rev. H

SECTIONAL VIEW DRAWING
3LPF4 80-160

N°	PART NAME	MATERIAL	DIMENSIONS	STANDARD	Q.TY
1	Casing	EN 1.4401 (AISI 316)			1
3	Support	Cast iron EN-GJL-200-EN 1561			1
4	Casing cover	EN 1.4404 (AISI 316L)			1
6	Shaft	EN 1.4404 (AISI 316L)-Part in contact with liquid			1
7	Impeller	EN 1.4401 (AISI 316)			1
11	Mechanical seal	SiC/SiC/FPM	See p. 313-317		1
19	Bearing	-	See table p. 312		1
20	Bearing	-	See table p. 312		1
24	Plug	EN 1.4404 (AISI 316L)	G3/8	EPE DRAWING	1
25	Plug		G3/8	EPE DRAWING	1
26	"O" ring	FPM [1]	227.96x5.34	OR 6895	1
32	Key	EN 1.4401 (AISI 316)	6x6x25	UNI 6604	1
33	Key	C 40	8x7x40		1
34	Impeller nut	EN 1.4404 (AISI 316L)	M16x1.5	UNI 7474	1
42	Pump support	Zinc-coated steel		EPE DRAWING	1
66	Impeller side bearing cover	Cast iron EN-GJL-200-EN 1561			1
67	Motor side bearing cover	Cast iron EN-GJL-200-EN 1561			1
75	Washer (plug)	EN 1.4404 (AISI 316L)			1
76	Washer (plug)				1
77	O-ring (plug)	FPM [1]			1
78	O-ring (plug)				1
89	Snap ring	Carbon tool steels TC 80	Ø 40	UNI 7435	1
92	"V" ring	-	VS-0030		1
93	"V" ring				1
200	Screw	Stainless steel A2 70 class ISO 3506/1	M 10x35	UNI 5739	10
200A	Screw		M 10x30		2
235	Washer	EN 1.4301(AISI 304)	10.5	UNI 8842	12

Counterflange kit on request, see table p. 319-320

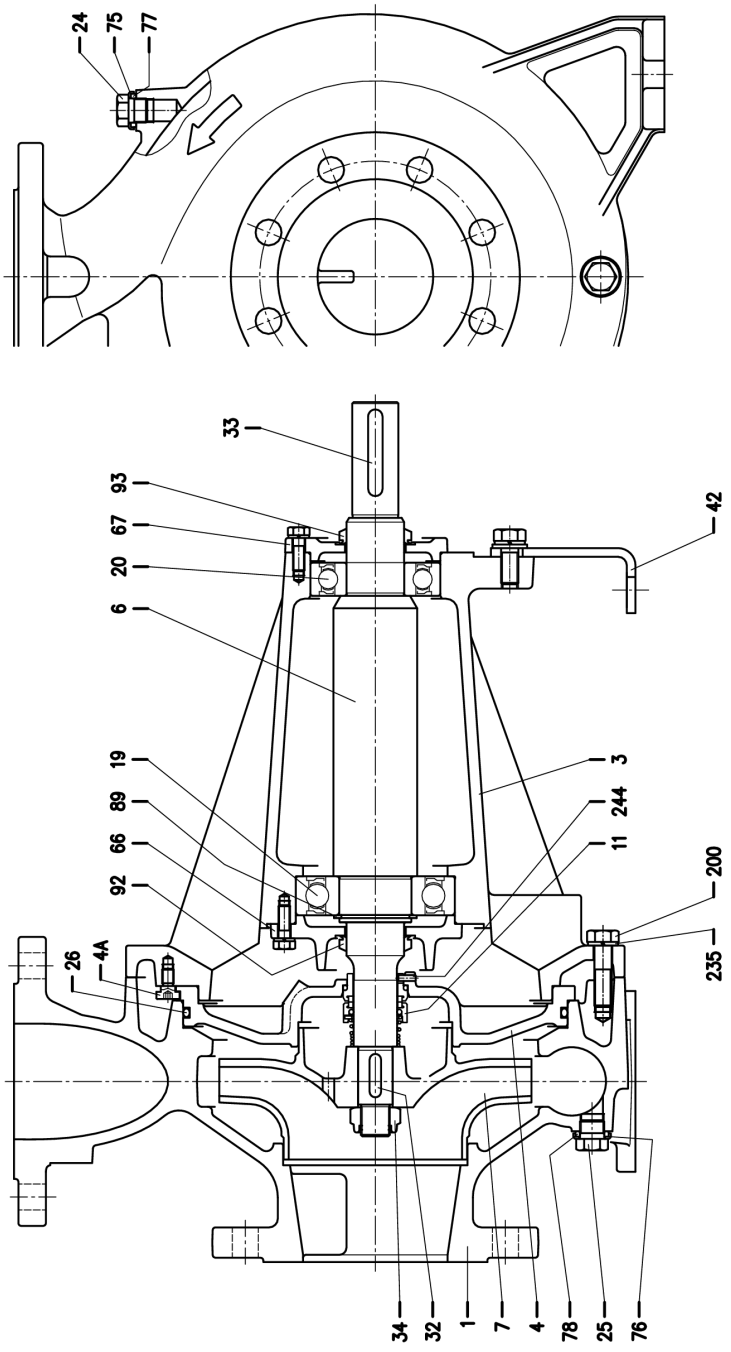
[1] FPM for H-HW-HSW option
EPDM for E version, U3U3EGG, Q1AEGG, Q1Q1EGG, Q1U3EGG, U3CEGG

CONSTRUCTIONS

50Hz

Rev. H

SECTIONAL VIEW DRAWING
3LPF4 65-250, 80



CONSTRUCTIONS 50Hz

Rev. H

SECTIONAL VIEW TABLE
3LPF4 65-250, 80

N°	PART NAME	MATERIAL	DIMENSIONS	STANDARD	Q.TY
1	Casing	EN 1.4401 (AISI316)			1
3	Support	Cast iron EN-GJL-200-EN 1561			1
4	Casing cover	EN 1.4401 (AISI316)			1
4A	Screw for casing cover	EN 1.4301 (AISI 304)			2
6	Shaft	EN 1.4462 (Duplex stainless steel)-Part in contact with liquid			1
7	Impeller	EN 1.4401 (AISI316)			1
11	Mechanical seal	SiC/SiC/FPM	See p. 313-317		1
19	Bearing	-	See table p. 312		1
20	Bearing	-	See table p. 312		1
24	Plug	EN 1.4404 (AISI316L)	G3/8		1
25	Plug		G3/8		1
26	"O" ring	FPM [2]	253.36x5.34	OR 6995	1
32	Key	EN 1.4401 (AISI 316)	8x7x30	UNI 6604	1
33	Key	C 40	10x8x60	UNI 6604	1
34	impeller nut	EN 1.4404 (AISI 316L)	M20x1.5	UNI 7474	1
42	Pump support	Zinc-coated steel			1
66	Impeller side bearing cover	Cast iron EN-GJL-200-EN 1561			1
67	Motor side bearing cover	Cast iron EN-GJL-200-EN 1561			1
75	Washer (plug)	EN 1.4404 (AISI 316L)			1
76	Washer (plug)				1
77	O-ring (plug)	FPM [2]			1
78	O-ring (plug)				1
89	Snap ring	Carbon tool steels TC 80	Ø 50	UNI 7435	1
92	"V" ring	-	VS-0040		1
93	"V" ring				1
200	Screw	Stainless steel A2 70 class ISO 3506/1	M 12x45	UNI 5739	10
235	Washer	EN 1.4301 (AISI 304)	13	UNI 8842	10
244	Pin [1]	EN 1.4301 (AISI 304)	4x12	UNI 6873	1

Counterflange kit on request, see table p. 319-320

[1] Not for H and E option.
[2] FPM for H-HW-HSW option
EPDM for E version, Q1AEGG, Q1Q1EGG, Q1U3EGG, U3CEGG

CONSTRUCTIONS

50Hz

Rev. H

3(.)PF4 BALL BEARING

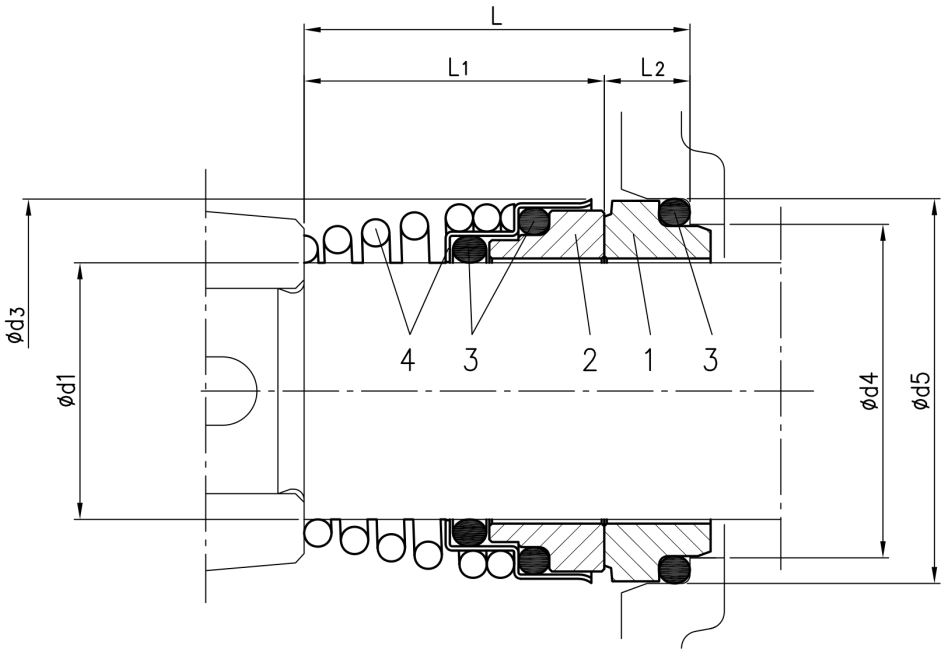
Pump type		Ball bearing	
		Pump side	Motor side
3(.)PF4	32-125	6306-2RS1 C3	6206-2RS1 C3
3(.)PF4	32-160/R		
3(.)PF4	32-160		
3(.)PF4	32-200 /R	6308-2RS1 C3	6306-2RS1 C3
3(.)PF4	32-200		
3(.)PF4	32-200 /L		
3(.)PF4	40-125 /R	6306-2RS1 C3	6206-2RS1 C3
3(.)PF4	40-125		
3(.)PF4	40-160 /R		
3(.)PF4	40-160		
3(.)PF4	40-200 /R	6308-2RS1 C3	6306-2RS1 C3
3(.)PF4	40-200		
3(.)PF4	40-200 /L		
3(.)PF4	50-125 /R	6306-2RS1 C3	6206-2RS1 C3
3(.)PF4	50-125		
3(.)PF4	50-160 /R	6308-2RS1 C3	6306-2RS1 C3
3(.)PF4	50-160		
3(.)PF4	50-200/R		
3(.)PF4	50-200		
3(.)PF4	50-200 /L		
3(.)PF4	65-125 /R	6306-2RS1 C3	6206-2RS1 C3
3(.)PF4	65-125		
3(.)PF4	65-125 /L		
3(.)PF4	65-160 /R	6308-2RS1 C3	6306-2RS1 C3
3(.)PF4	65-160		
3(.)PF4	65-160 /L		
3(.)PF4	65-200 /R		
3(.)PF4	65-200		
3(.)PF4	65-200 /L		
3LPF4	65-250	6310-2RS1 C3	6308-2RS1 C3
3LPF4	65-250 /L		
3LPF4	80-160 /R	6308-2RS1 C3	6308-2RS1 C3
3LPF4	80-160		
3LPF4	80-200 /L		
3LPF4	80-200 /R	6310-2RS1 C3	6308-2RS1 C3
3LPF4	80-200		
3LPF4	80-200 /L		
3LPF4	80-250 /R		
3LPF4	80-250		
3LPF4	80-250/L		

CONSTRUCTIONS

50Hz

Rev. H

MECHANICAL SEAL (standard, H, E and special version)



Version	Pump type	Dimensions								Material			
		d1	d2	d3	d4	d5	L	L1	L2	**1** Stationary seal ring	**2** Rotary seal ring	**3** Rubber	**4** Frame + spring
Standard	32-125/160/200 40-125/160/200 50-125/160/200 65-125/160/200	22	19	38	31	37	37.5	27.5	10	Carbon	Ceramic	NBR	EN 1.4401 (AISI 316)
H	32-125/160/200 40-125/160/200 50-125/160/200 65-125/160/200 80-160	22	19	38	31	37	37.5	27.5	10	Carbon	Ceramic	FPM	EN 1.4401 (AISI 316)
	65-250 80-200/250	30	24	46	39	45	42.5	32.5	10				
E	32-125/160/200 40-125/160/200 50-125/160/200 65-125/160/200 80-160	22	19	38	31	37	37.5	27.5	10	Carbon	Ceramic	EPDM	EN 1.4401 (AISI 316)
	65-250 80-200/250	30	24	46	39	45	42.5	32.5	10				
Q1AEGG*	65-250 80-200/250	30	24	46	39	45	42.5	32.5	10	Silicon Carbide	Metallised Carbon	EPDM	EN 1.4401 (AISI 316)

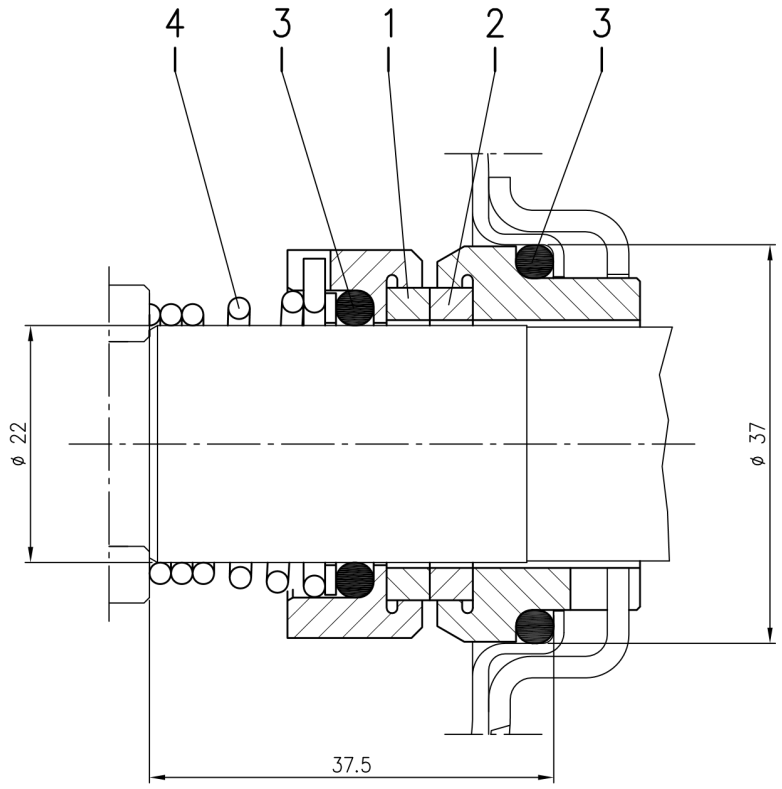
* The drawing is only indicative

CONSTRUCTIONS

50Hz

Rev. H

MECHANICAL SEAL (L VERSION Ø22)



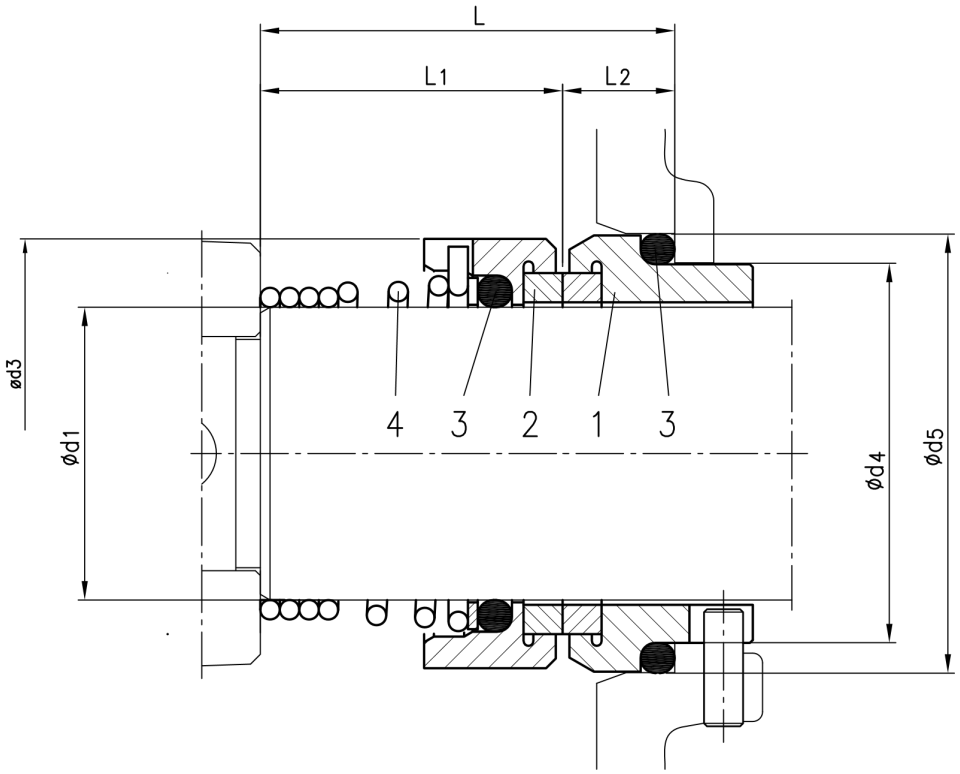
Version	Pump type	Material			
		1 Stationary seal ring	2 Rotary seal ring	3 Rubber	4 Frame + spring
L ø22	32-125/160/200 40-125/160/200 50-125/160/200 65-125/160/200 80-160	SiC	SiC	FPM	EN 1.4571 (AISI 316Ti)

CONSTRUCTIONS

50Hz

Rev. H

MECHANICAL SEAL (L VERSION Ø30)



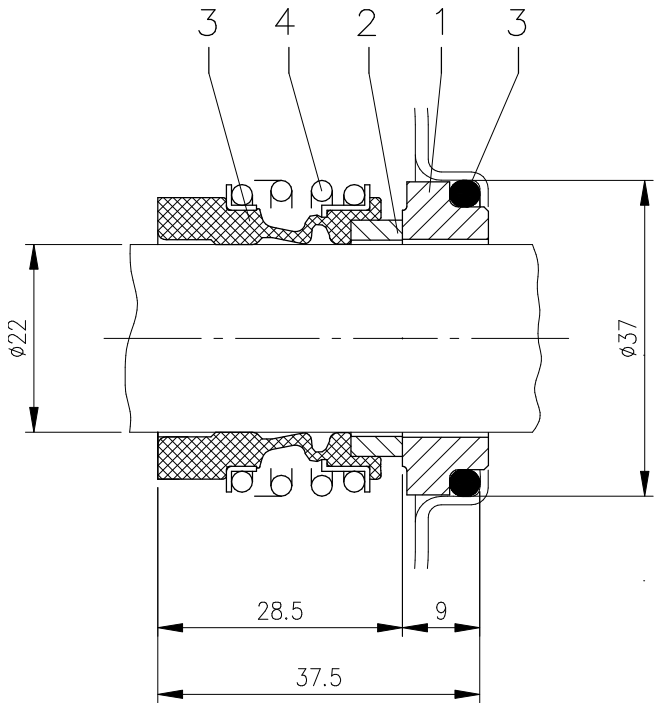
Version	Pump type	Dimensions								Material			
		d1	d2	d3	d4	d5	L	L1	L2	1 Stationary seal ring	2 Rotary seal ring	3 Rubber	4 Frame + spring
L ø30	65-250 80-200/250	30	24	44	39	45	42.5	31	11.5	SiC	SiC	FPM	EN 1.4571 (AISI 316Ti)

CONSTRUCTIONS

50Hz

Rev. H

MECHANICAL SEAL (HS version e special version Ø22)



Version	Pump type	Material 1 Stationary seal ring	2 Rotary seal ring	3 Rubber	4 Frame + spring
HS ø22	32-125/160/200 40-125/160/200 50-125/160/200 65-125/160/200	SiC	SiC	FPM	EN 1.4571 (AISI 316Ti)
Q1AEGG*	32-125/160/200 40-125/160/200 50-125/160/200 65-125/160/200 80-160	Silicon Carbide	Metallised Carbon	EPDM	EN 1.4401 (AISI 316)

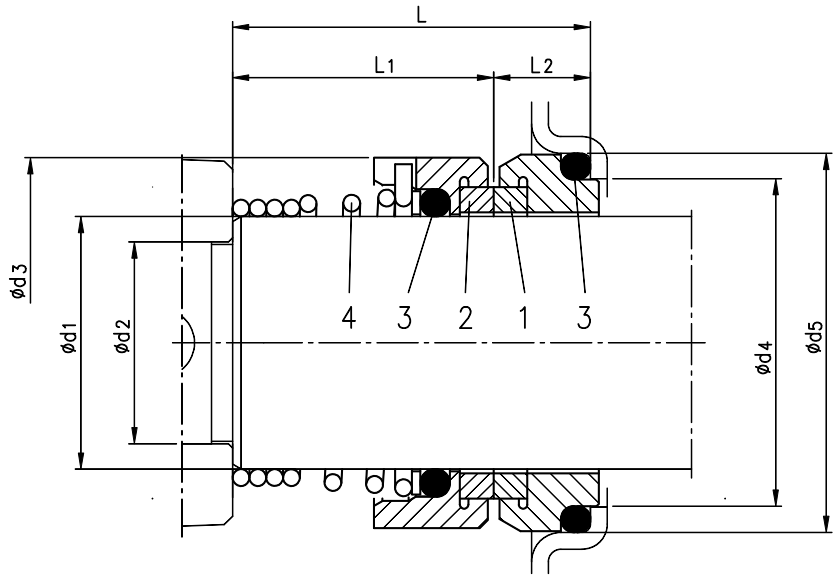
* The drawing is only indicative

CONSTRUCTIONS

50Hz

Rev. H

MECHANICAL SEAL (HW, HSW, E and special version)



Version	Pump type	Dimensions								Material			
		d1	d2	d3	d4	d5	L	L1	L2	1 Stationary seal ring	2 Rotary seal ring	3 Rubber	4 Frame + spring
HW	32-125/160/200 40-125/160/200 50-125/160/200 65-125/160/200 80-160	22	19	38	31	37	37.5	27.5	10	Tungsten Carbide	Tungsten Carbide	FPM	EN 1.4401 (AISI 316)
	65-250 80-200/250	30	24	46	39	45	42.5	32.5	10				
HSW	32-125/160/200 40-125/160/200 50-125/160/200 65-125/160/200 80-160	22	19	38	31	37	37.5	27.5	10	Tungsten Carbide	SiC	FPM	EN 1.4401 (AISI 316)
	65-250 80-200/250	30	24	46	39	45	42.5	32.5	10				
U3U3EGG*	32-125/160/200 40-125/160/200 50-125/160/200 65-125/160/200 80-160	22	19	38	31	37	37.5	27.5	10	Tungsten Carbide	Tungsten Carbide	EPDM	EN 1.4401 (AISI 316)
Q1Q1EGG*	32-125/160/200 40-125/160/200 50-125/160/200 65-125/160/200 80-160	22	19	38	31	37	37.5	27.5	10	Silicon Carbide	Silicon Carbide	EPDM	EN 1.4401 (AISI 316)
	65-250 80-200/250	30	24	46	39	45	42.5	32.5	10				
Q1U3EGG*	32-125/160/200 40-125/160/200 50-125/160/200 65-125/160/200 80-160	22	19	38	31	37	37.5	27.5	10	Silicon Carbide	Tungsten Carbide	EPDM	EN 1.4401 (AISI 316)
	65-250 80-200/250	30	24	46	39	45	42.5	32.5	10				
U3CEGG*	32-125/160/200 40-125/160/200 50-125/160/200 65-125/160/200 80-160	22	19	38	31	37	37.5	27.5	10	Tungsten Carbide	Special Carbon	EPDM	EN 1.4401 (AISI 316)
	65-250 80-200/250	30	24	46	39	45	42.5	32.5	10				

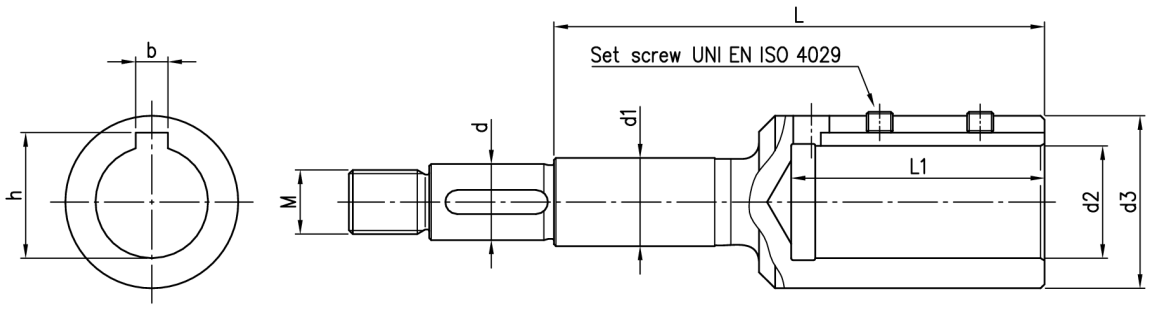
* The drawing is only indicative

CONSTRUCTIONS

50Hz

Rev. H

COUPLING



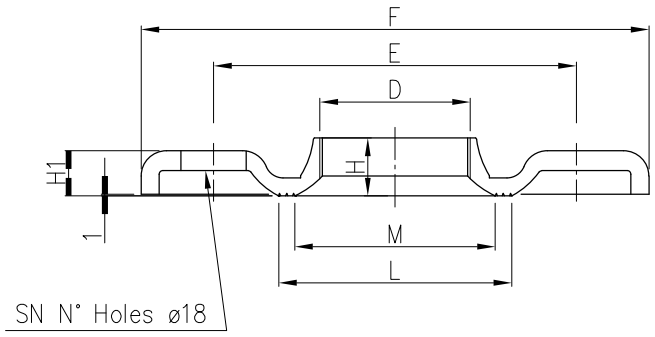
Type pumps	kW	HP	Motor Size	Dimensions mm									
				d	d1	d2	d3	M	L	L1	b	h	Set screw
32-125/0.25	0.25	0.33	71	19	22	14	28	M16x1.5	88	33	5	16	M5x6
32-160/0.37R	0.37	0.5	71	19	22	14	28	M16x1.5	88	33	5	16	M5x6
32-160/0.37	0.37	0.5	71	19	22	14	28	M16x1.5	88	33	5	16	M5x6
32-200/0.55R	0.55	0.75	80	19	22	19	33	M16x1.5	98	43	6	22	M6x6
32-200/0.55	0.55	0.75	80	19	22	19	33	M16x1.5	98	43	6	22	M6x6
32-200/0.75	0.75	1	80	19	22	19	33	M16x1.5	98	43	6	22	M6x6
40-125/0.37R	0.37	0.5	71	19	22	14	28	M16x1.5	88	33	5	16	M5x6
40-125/0.37	0.37	0.5	71	19	22	14	28	M16x1.5	88	33	5	16	M5x6
40-160/0.55R	0.55	0.75	80	19	22	19	33	M16x1.5	98	43	6	22	M6x6
40-160/0.55	0.55	0.75	80	19	22	19	33	M16x1.5	98	43	6	22	M6x6
40-200/1.1R	1.1	1.5	90	19	22	24	39	M16x1.5	110	53	8	27	M8x8
40-200/1.1	1.1	1.5	90	19	22	24	39	M16x1.5	110	53	8	27	M8x8
40-200/1.5	1.5	2	90	19	22	24	39	M16x1.5	110	53	8	27	M8x8
50-125/0.55R	0.55	0.75	80	19	22	19	33	M16x1.5	98	43	6	22	M6x6
50-125/0.55	0.55	0.75	80	19	22	19	33	M16x1.5	98	43	6	22	M6x6
50-160/1.1R	1.1	1.5	90	19	22	24	39	M16x1.5	110	53	8	27	M8x8
50-160/1.1	1.1	1.5	90	19	22	24	39	M16x1.5	110	53	8	27	M8x8
50-200/1.5R	1.5	2	90	19	22	24	39	M16x1.5	110	53	8	27	M8x8
50-200/1.5	1.5	2	90	19	22	24	39	M16x1.5	110	53	8	27	M8x8
50-200/2.2	2.2	3	100	22	22	28	43	M18x1.5	153	63	8	31	M8x8
65-125/0.55	0.55	0.75	80	19	22	19	33	M16x1.5	98	43	6	22	M6x6
65-125/0.75	0.75	1	80	19	22	19	33	M16x1.5	98	43	6	22	M6x6
65-125/1.1	1.1	1.5	90	19	22	24	39	M16x1.5	110	53	8	27	M8x8
65-160/1.1	1.1	1.5	90	19	22	24	39	M16x1.5	110	53	8	27	M8x8
65-160/1.5	1.5	2	90	19	22	24	39	M16x1.5	110	53	8	27	M8x8
65-160/2.2	2.2	3	100	19	22	28	43	M16x1.5	122	63	8	31	M8x8
65-200/2.2R	2.2	3	100	19	22	28	43	M16x1.5	122	63	8	31	M8x8
65-200/2.2	2.2	3	100	19	22	28	43	M16x1.5	122	63	8	31	M8x8
65-200/3	3	4	100	19	22	28	43	M16x1.5	122	63	8	31	M8x8
65-250/4	4	5.5	112	24	30	28	43	M20x1.5	128	63	8	31	M8x8
65-250/5.5	5.5	7.5	132	24	30	38	58	M20x1.5	151	84	10	41	M8x8
80-160/1.5	1.5	2	90	19	22	24	39	M16x1.5	110	53	8	27	M8x8
80-160/2.2R	2.2	3	100	19	22	28	43	M16x1.5	122	63	8	31	M8x8
80-160/2.2	2.2	3	100	19	22	28	43	M16x1.5	122	63	8	31	M8x8
80-200/3	3	4	100	24	30	28	43	M20x1.5	128	63	8	31	M8x8
80-200/4R	4	5.5	112	24	30	28	43	M20x1.5	128	63	8	31	M8x8
80-200/4	4	5.5	112	24	30	28	43	M20x1.5	128	63	8	31	M8x8
80-250/5.5R	5.5	7.5	132	24	30	38	58	M20x1.5	151	84	10	41	M8x8
80-250/5.5	5.5	7.5	132	24	30	38	58	M20x1.5	151	84	10	41	M8x8
80-250/7.5	7.5	10	132	24	30	38	58	M20x1.5	151	84	10	41	M8x8

CONSTRUCTIONS

50Hz

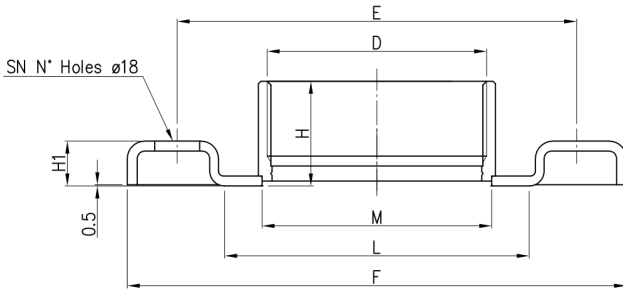
Rev. H

COUNTERFLANGE ZINCKED STEEL



Counterflange									Screw	
DN	D	E	F	H	H1	L	M	SN	DIMENSIONS	MATERIAL
32	G 1 1/4	100	100	15	11.5	67	50	4	M16x55	Zn. Steel 8.8 strenght class ISO 898-1
40	G 1 1/2	110	110	17.5	11.5	72	58	4		
50	G2	125	125	19	15	89	70	4		
65	G 2 1/2	145	185	23	14	104	88	4		
80	G3	160	200	24	16	117.5	100	8	M16x60	
100	G4	180	220	29	16	144	125	8		

COUNTERFLANGE EN 1.4404 (AISI 316L)



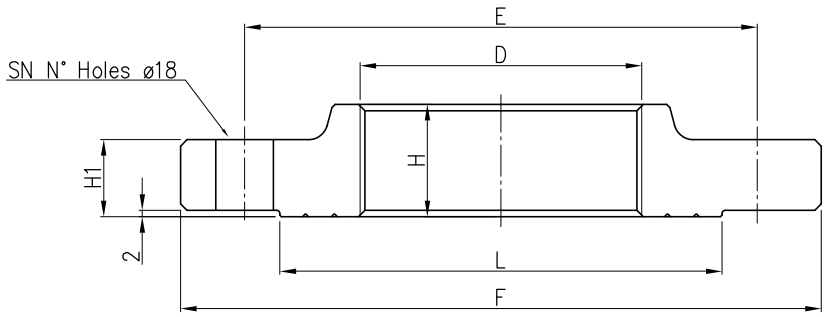
Counterflange									Screw	
DN	D	E	F	H	H1	L	M	SN	DIMENSIONS	MATERIAL
32	G 1 1/4	100	140	29.5	14	66	44	4	M16x55	A2-70 class ISO 3506-1
40	G 1 1/2	110	150	29.5	14	71	50.5			
50	G 2	125	165	34	16	83	63			
65	G 2 1/2	145	185	40	16	103	80			
80	G3	160	200	42	18	122	92	8	M16x60	

CONSTRUCTIONS

50Hz

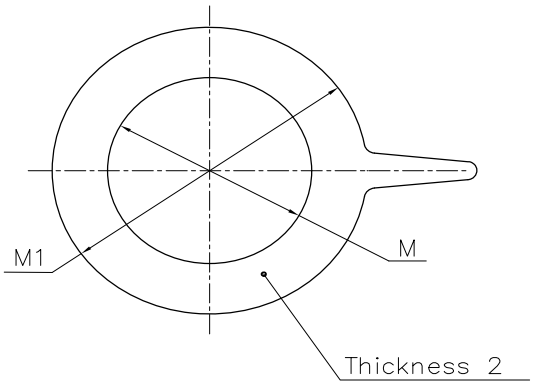
Rev. H

COUNTERFLANGE EN 1.4404 (AISI 316L) DN100



Counterflange								Screw	
DN	D	E	F	H	H1	L	SN	DIMENSIONS	MATERIAL
100	G4	180	220	35	20	150	8	M16x70	A2-70 class ISO 3506-1

GASKET



DN	M	M1
32	38	82
40	50	93
50	60	107
65	80	125
80	90	140
100	115	160

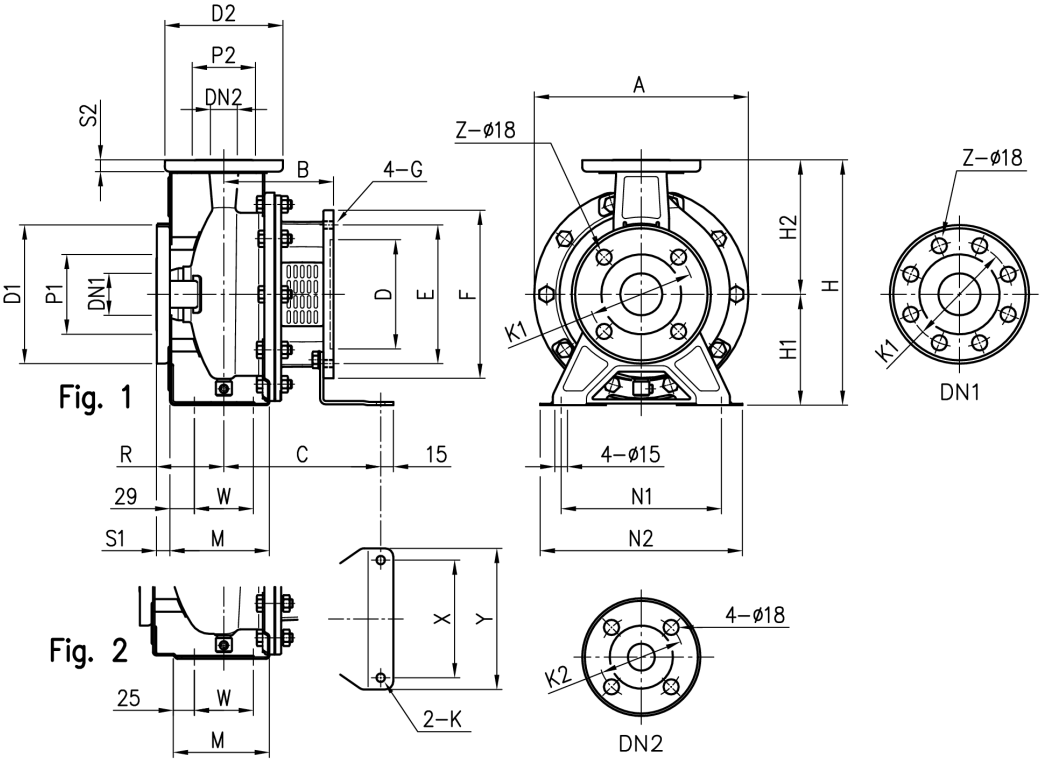
Material : EPDM for standard version
FPM for L version

DIMENSIONS

50Hz

Rev. H

PUMP 3(.)SF4 32, 40, 50, 65



Pump type	Fig.	Dimensions [mm]																															Weight [kgf]
		DN1	P1	K1	D1	S1	Z [1]	Z [2]	DN2	P2	K2	D2	S2	H	H1	H2	M	N1	N2	R	W	A	B	C	D	E	F	G	X	Y	K	
32-125/0.25	1	50	95	125	165	16	4	-	32	75	100	140	14	252	112	140	114	140	190	80	70	213	108	153	110	130	160	M8	112	140	8	15
32-160/0.37R	1	50	95	125	165	16	4	-	32	75	100	140	14	292	132	160	118	190	240	80	70	254	108	153	110	130	160	M8	112	140	8	19.5
32-160/0.37	1	50	95	125	165	16	4	-	32	75	100	140	14	292	132	160	118	190	240	80	70	254	108	153	110	130	160	M8	112	140	8	19.5
32-200/0.55R	1	50	95	125	165	16	4	-	32	75	100	140	14	340	160	180	119	190	240	80	70	296	118	174	130	165	200	M10	140	168	10	24
32-200/0.55	1	50	95	125	165	16	4	-	32	75	100	140	14	340	160	180	119	190	240	80	70	296	118	174	130	165	200	M10	140	168	10	24
32-200/0.75	1	50	95	125	165	16	4	-	32	75	100	140	14	340	160	180	119	190	240	80	70	296	118	174	130	165	200	M10	140	168	10	24
40-125/0.37R	1	65	115	145	185	16	4	-	40	80	110	150	14	252	112	140	114	160	210	80	70	213	108	153	110	130	160	M8	112	140	8	16.5
40-125/0.37	1	65	115	145	185	16	4	-	40	80	110	150	14	252	112	140	114	160	210	80	70	213	108	153	110	130	160	M8	112	140	8	16.5
40-160/0.55R	1	65	115	145	185	16	4	-	40	80	110	150	14	292	132	160	118	190	240	80	70	254	118	174	130	165	200	M10	140	168	10	20
40-160/0.55	1	65	115	145	185	16	4	-	40	80	110	150	14	292	132	160	118	190	240	80	70	254	118	174	130	165	200	M10	140	168	10	20
40-200/1.1R	2	65	115	145	185	16	4	-	40	80	110	150	14	340	160	180	115	212	265	100	70	296	130	186	130	165	200	M10	140	168	10	27
40-200/1.1	2	65	115	145	185	16	4	-	40	80	110	150	14	340	160	180	115	212	265	100	70	296	130	186	130	165	200	M10	140	168	10	27
40-200/1.5	2	65	115	145	185	16	4	-	40	80	110	150	14	340	160	180	115	212	265	100	70	296	130	186	130	165	200	M10	140	168	10	27
50-125/0.55R	2	65	115	145	185	16	4	-	50	95	125	165	16	292	132	160	114	190	240	100	70	254	118	174	130	165	200	M10	140	168	10	21
50-125/0.55	2	65	115	145	185	16	4	-	50	95	125	165	16	292	132	160	114	190	240	100	70	254	118	174	130	165	200	M10	140	168	10	21
50-160/1.1R	2	65	115	145	185	16	4	-	50	95	125	165	16	340	160	180	115	212	265	100	70	296	130	186	130	165	200	M10	140	168	10	26
50-160/1.1	2	65	115	145	185	16	4	-	50	95	125	165	16	340	160	180	115	212	265	100	70	296	130	186	130	165	200	M10	140	168	10	26
50-200/1.5R	2	65	115	145	185	16	4	-	50	95	125	165	16	360	160	200	115	212	265	100	70	296	130	186	130	165	200	M10	140	168	10	29.5
50-200/1.5	2	65	115	145	185	16	4	-	50	95	125	165	16	360	160	200	115	212	265	100	70	296	130	186	130	165	200	M10	140	168	10	29.5
65-125/0.55	2	80	134	160	200	18	8	4	65	115	145	185	16	340	160	180	140	212	280	100	95	254	118	174	130	165	200	M10	140	168	10	26
65-125/0.75	2	80	134	160	200	18	8	4	65	115	145	185	16	340	160	180	140	212	280	100	95	254	118	174	130	165	200	M10	140	168	10	27.5
65-125/1.1	2	80	134	160	200	18	8	4	65	115	145	185	16	340	160	180	140	212	280	100	95	254	130	186	130	165	200	M10	140	168	10	28.5
65-160/1.1	2	80	134	160	200	18	8	4	65	115	145	185	16	360	160	200	140	212	280	100	95	296	130	186	130	165	200	M10	140	168	10	29.5
65-160/1.5	2	80	134	160	200	18	8	4	65	115	145	185	16	360	160	200	140	212	280	100	95	296	130	186	130	165	200	M10	140	168	10	30

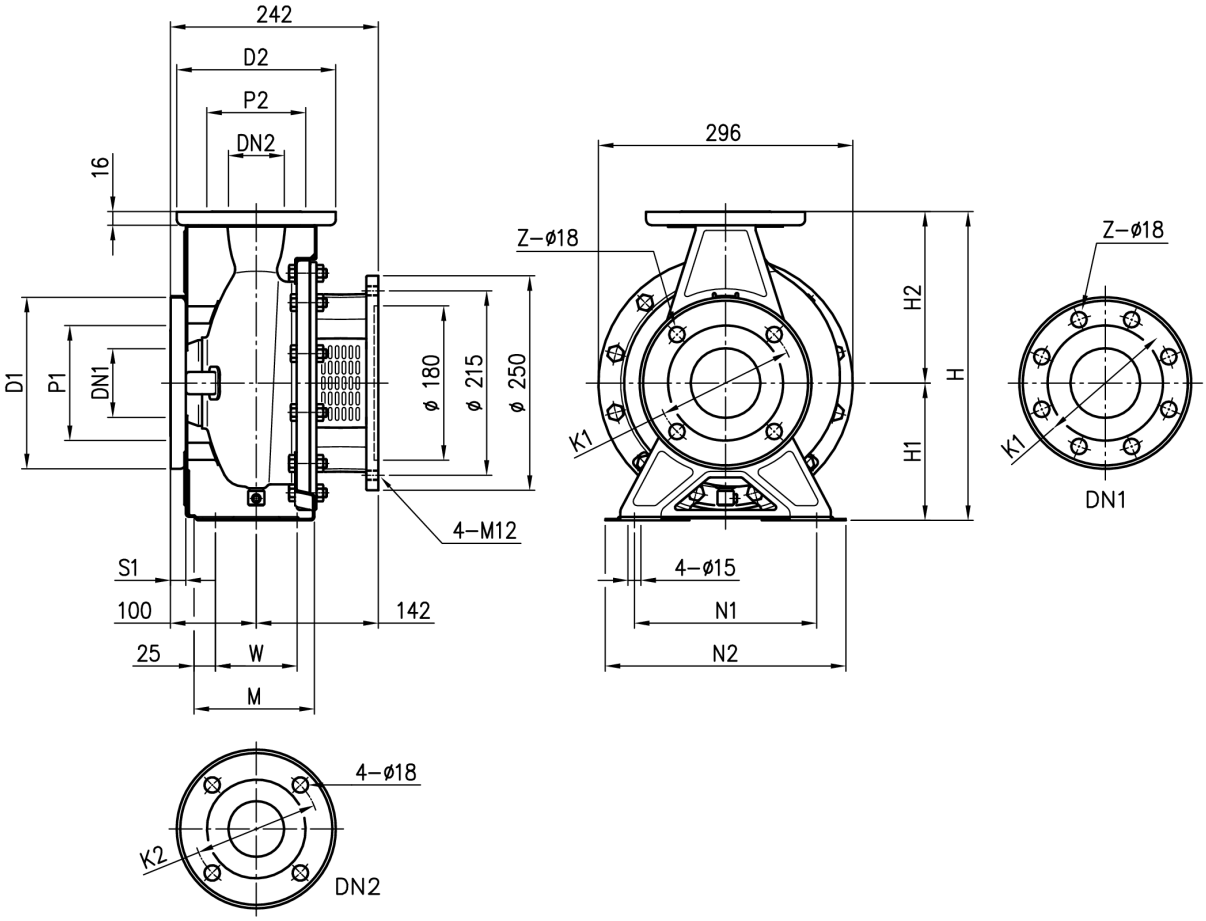
[1] Standard [2] On request

DIMENSIONS

50Hz

Rev. H

PUMP 3(.) SF4 50, 65



Pump type	Dimensions [mm]																		Weight [kgf]
	DN1	P1	K1	D1	S1	Z [1]	Z [2]	DN2	P2	K2	D2	H	H1	H2	M	N1	N2	W	
50-200/2.2	65	115	145	185	16	4	-	50	95	125	165	360	160	200	115	212	265	70	29.5
65-160/2.2	80	134	160	200	18	8	4	65	115	145	185	360	160	200	140	212	280	95	30
65-200/2.2R	80	134	160	200	18	8	4	65	115	145	185	405	180	225	140	250	320	95	29.5
65-200/2.2	80	134	160	200	18	8	4	65	115	145	185	405	180	225	140	250	320	95	29.5
65-200/3	80	134	160	200	18	8	4	65	115	145	185	405	180	225	140	250	320	95	30

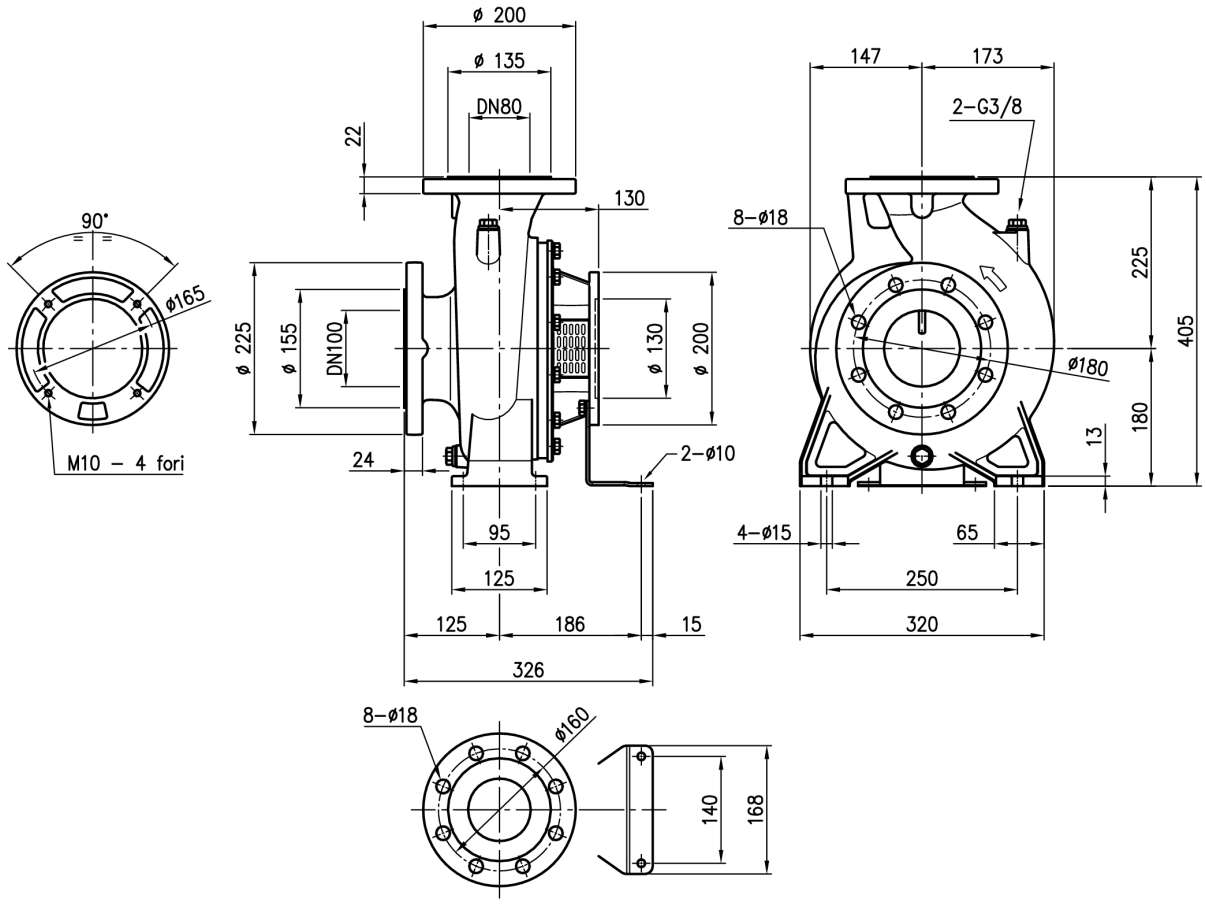
[1] Standard [2] On request

DIMENSIONS

50Hz

Rev. H

PUMP 3LSF4 80



80-160/1.5

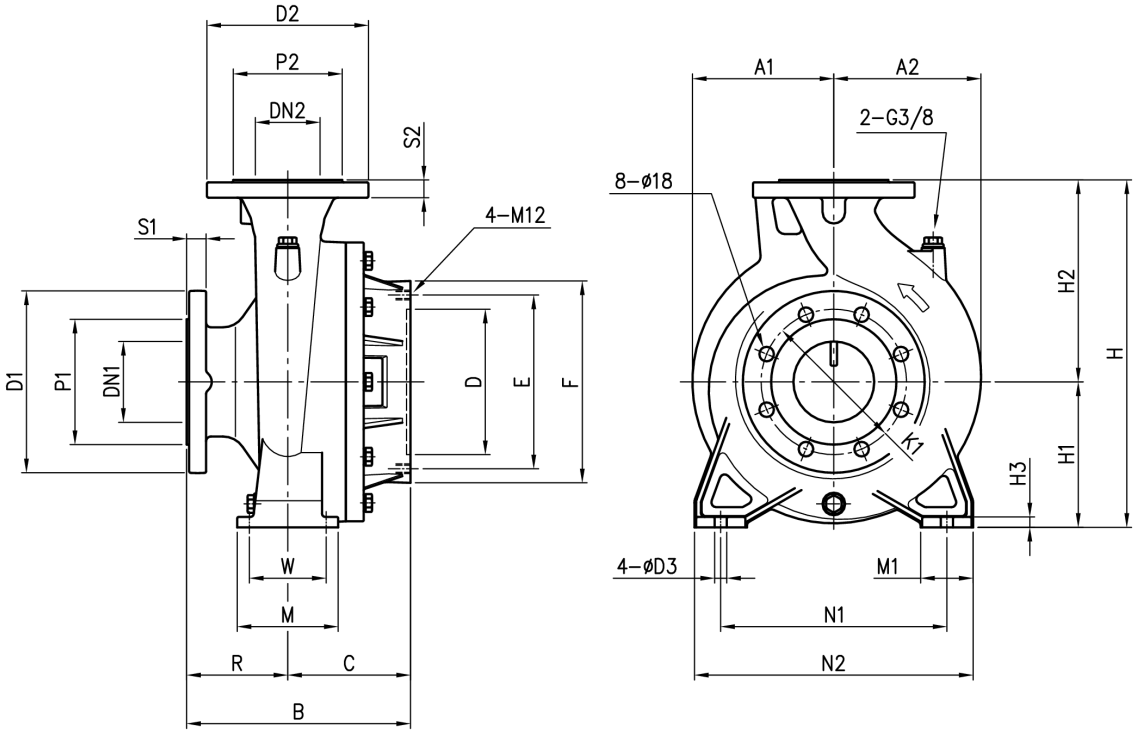
Pump weight: 50.2Kg

DIMENSIONS

50Hz

Rev. H

PUMP 3LSF4 65-250, 80



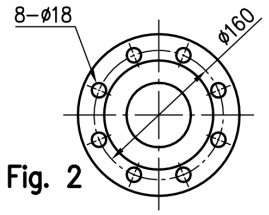


Fig. 2

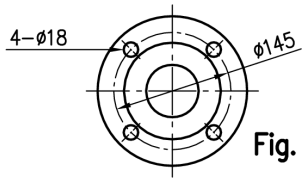


Fig. 1

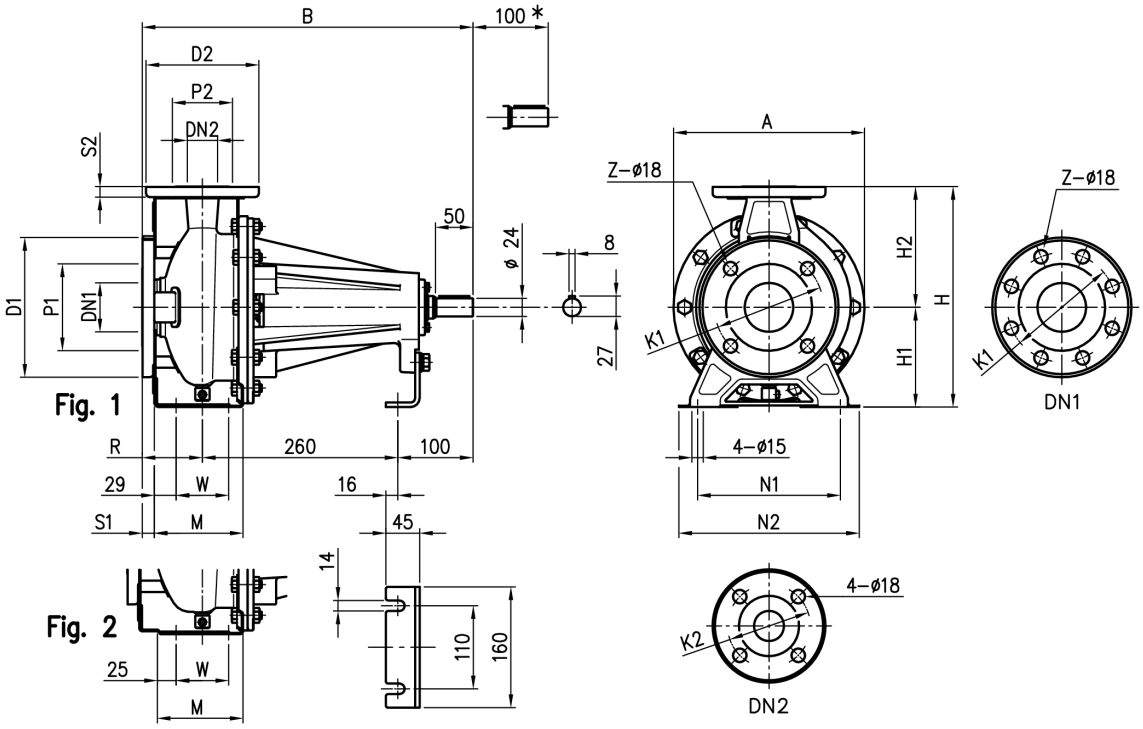
Pump type	Dimensions [mm]																										Weight [kgf]
	DN1	P1	K1	D1	S1	DN2	P2	D2	S2	H	H1	H2	H3	R	W	N1	N2	M	M1	D3	B	C	D	E	F	A1	A2	
65-250/4	80	135	160	200	22	65 Fig. 1	120	185	20	450	200	250	15	100	120	280	360	160	80	19	252	152	180	215	250	175	182	56.5
65-250/5.5	80	135	160	200	22	65 Fig. 1	120	185	20	450	200	250	15	100	120	280	360	160	80	19	252	152	230	265	300	175	182	53.5
80-160/2.2R	100	155	180	225	24	80 Fig. 2	135	200	22	405	180	225	13	125	95	250	320	125	65	15	267	142	180	215	250	147	173	50.5
80-160/2.2	100	155	180	225	24	80 Fig. 2	135	200	22	405	180	225	13	125	95	250	320	125	65	15	267	142	180	215	250	147	173	50.5
80-200/3	100	155	180	225	24	80 Fig. 2	135	200	22	430	180	250	13	125	95	280	345	125	65	15	277	152	180	215	250	175	182	59
80-200/4	100	155	180	225	24	80 Fig. 2	135	200	22	430	180	250	13	125	95	280	345	125	65	15	277	152	180	215	250	175	182	60.5
80-200/4R	100	155	180	225	24	80 Fig. 2	135	200	22	430	180	250	13	125	95	280	345	125	65	15	277	152	180	215	250	175	182	60.5
80-250/5.5	100	155	180	225	24	80 Fig. 2	135	200	22	480	200	280	15	125	120	315	400	160	80	19	300	175	230	265	300	175	192	58
80-250/5.5R	100	155	180	225	24	80 Fig. 2	135	200	22	480	200	280	15	125	120	315	400	160	80	19	300	175	230	265	300	175	192	58
80-250/7.5	100	155	180	225	24	80 Fig. 2	135	200	22	480	200	280	15	125	120	315	400	160	80	19	300	175	230	265	300	175	192	59

DIMENSIONS

50Hz

Rev. H

PUMP 3(.)PF4 32, 40, 50, 65



* Space for disassembly

Pump type	Fig.	Dimensions [mm]																						Weight [kgf]
		DN1	P1	K1	D1	S1	Z [1]	Z [2]	DN2	P2	K2	D2	S2	H	H1	H2	M	N1	N2	R	W	A	B	
32-125	1	50	95	125	165	16	4	-	32	75	100	140	14	252	112	140	114	140	190	80	70	213	440	17
32-160	1	50	95	125	165	16	4	-	32	75	100	140	14	292	132	160	118	190	240	80	70	254	440	19
32-200	1	50	95	125	165	16	4	-	32	75	100	140	14	340	160	180	119	190	240	80	70	296	440	27
40-125	1	65	115	145	185	16	4	-	40	80	110	150	14	252	112	140	114	160	210	80	70	213	440	17
40-160	1	65	115	145	185	16	4	-	40	80	110	150	14	292	132	160	118	190	240	80	70	254	440	19
40-200	2	65	115	145	185	16	4	-	40	80	110	150	14	340	160	180	115	212	265	100	70	296	460	27
50-125	2	65	115	145	185	16	4	-	50	95	125	165	16	292	132	160	114	190	240	100	70	254	460	19
50-160	2	65	115	145	185	16	4	-	50	95	125	165	16	340	160	180	115	212	265	100	70	296	460	28
50-200	2	65	115	145	185	16	4	-	50	95	125	165	16	360	160	200	115	212	265	100	70	296	460	27
65-125	2	80	134	160	200	18	8	4	65	115	145	185	16	340	160	180	140	212	280	100	95	254	460	28
65-160	2	80	134	160	200	18	8	4	65	115	145	185	16	360	160	200	140	212	280	100	95	296	460	29
65-200	2	80	134	160	200	18	8	4	65	115	145	185	16	405	180	225	140	250	320	100	95	296	460	30

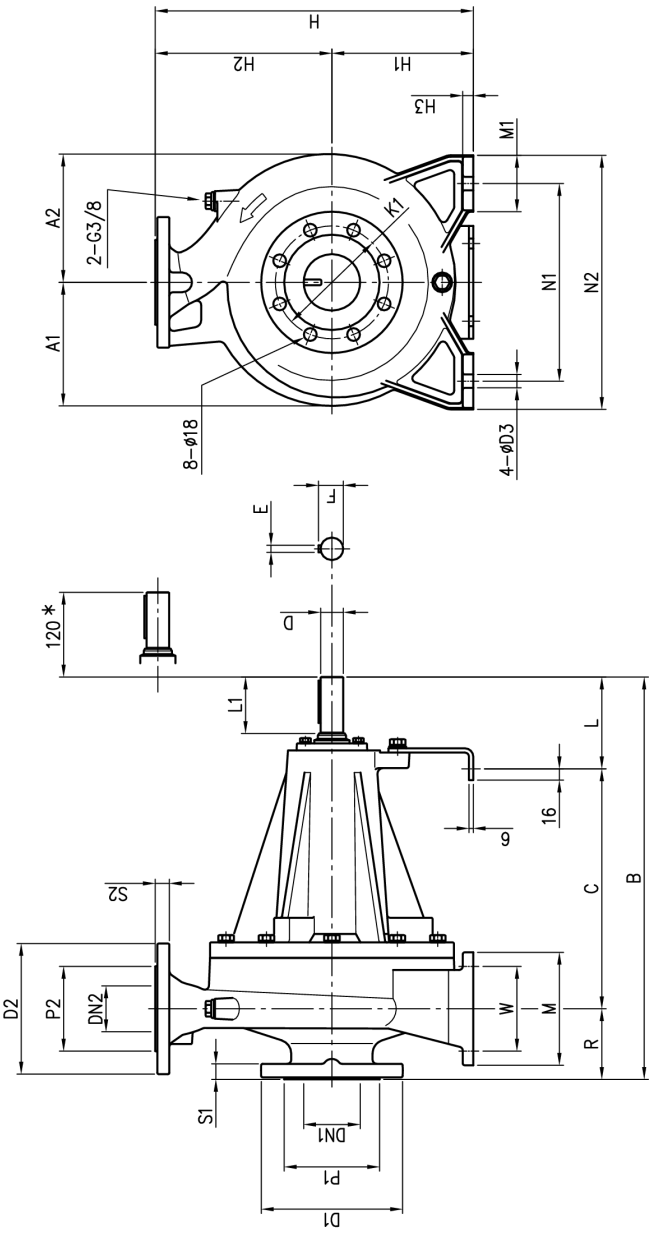
[1] Standard [2] On request

PACKING AND WEIGHT

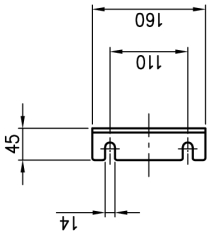
50Hz

Rev. H

PUMP 3LPF4 65-250, 80



* Space for disassembly



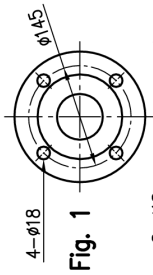


Fig. 1

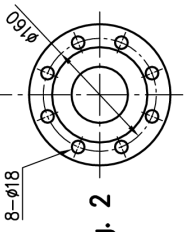


Fig. 2

Pump type		Dimensions [mm]																												Weight [kgf]
		DN1	P1	K1	D1	S1	DN2	P2	D2	S2	H	H1	H2	H3	R	W	N1	N2	M	M1	L	L1	D	D3	E	F	A1	A2	B	C	
3LPF	65-250	80	135	160	200	22	65 Fig. 1	120	185	20	450	200	250	15	100	120	280	360	160	80	130	80	32	19	10	35	175	182	570	340	82
3LPF4	80-160	100	155	180	225	24	80 Fig. 2	135	200	22	405	180	225	13	125	95	250	320	125	65	100	50	24	15	8	27	147	173	485	260	56
3LPF	80-200	100	155	180	225	24	80 Fig. 2	135	200	22	430	180	250	13	125	95	280	345	125	65	130	80	32	15	10	35	175	182	595	340	83
3LPF4	80-250	100	155	180	225	24	80 Fig. 2	135	200	22	480	200	280	15	125	120	315	400	160	80	130	80	32	19	10	35	175	192	595	340	84

PACKING AND WEIGHT

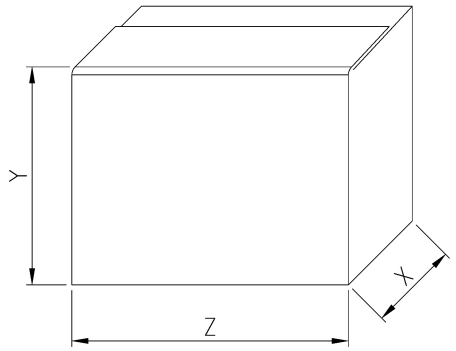
50Hz

Rev. H

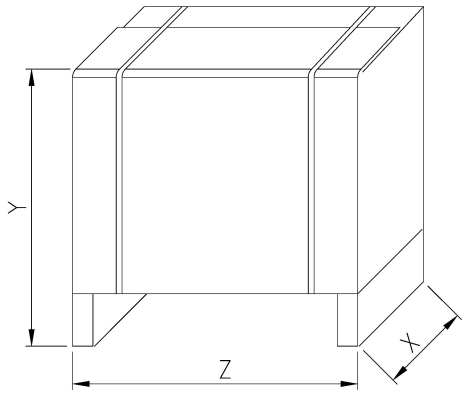
PACKING 3(.)SF4

Type pumps	PACKING [mm] X	Y	Z	WEIGHT [Kg]	PACK TYPE
32-125/0.25	424	405	374	17	1
32-160/0.37R				21	
32-160/0.37					
32-200/0.55R				26	
32-200/0.55					
32-200/0.75					
40-125/0.37R				18.5	
40-125/0.37					
40-160/0.55R				22	
40-160/0.55					
40-200/1.1R				29	
40-200/1.1					
40-200/1.5					
50-125/0.55R				23	
50-125/0.55					
50-160/1.1R				28	
50-160/1.1					
50-200/1.5R				31.5	
50-200/1.5					
50-200/2.2					
65-125/0.55				28	
65-125/0.75				29.5	
65-125/1.1				30.5	
65-160/1.1				35	
65-160/1.5				31.5	
65-160/2.2				32	
65-200/2.2R				31.5	
65-200/2.2				31.5	
65-200/3				32	
65-250/4	475	620	780	63.5	2
65-250/5.5				60.5	
80-160/1.5	390	545	580	56.5	
80-160/2.2R					
80-160/2.2					
80-200/3	475	620	780	66	
80-200/4R				67.5	
80-200/4				67.5	
80-250/5.5R				65	
80-250/5.5					
80-250/7.5				66	

TYPE 1



TYPE 2



PACKING AND WEIGHT

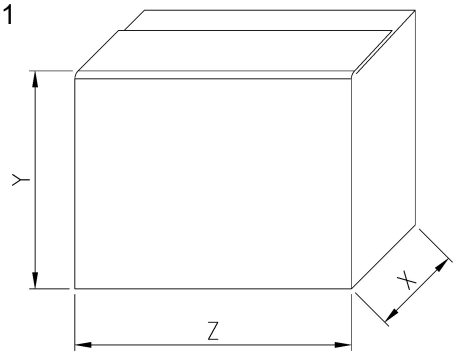
50Hz

Rev. H

PACKING 3(.)PF4

Type pumps	PACKING [mm] X	Y	Z	WEIGHT [Kg]	PACK TYPE
32-125	280	340	490	18	1
32-160/R				20	
32-160					
32-200/R	330	390	500	28.5	
32-200					
32-200/L					
40-125/R	280	340	490	18	
40-125					
40-160/R				20	
40-160					
40-200/R	330	390	500	28.5	
40-200					
40-200/L					
50-125/R	280	340	490	20	
50-125					
50-160/R	330	390	500	29	
50-160					
50-200/R				29.5	
50-200					
50-200/L					
65-125/R				29	
65-125					
65-125/L					
65-160/R				30.5	
65-160					
65-160/L					
65-200/R	375	440	860	31.5	
65-200					
65-200/L					
65-250	475	608	780	86	2
65-250/L					
80-160/R	390	545	580	60	
80-160					
80-160/L					
80-200/R	475	610	780	87	
80-200					
80-200/L					
80-250/R				88	
80-250					
80-250/L					

TYPE 1



TYPE 2

