

# پیشگامان صنعت و ایمنی پرگاس

PISHGAMAN SANAAT & IMENI PERGAS



## طراح، مشاور و مجری سیستم‌های ایمنی و تاسیساتی

دارای صلاحیت سازمان آتش‌نشانی تهران

اخذ تاییدیه آتش‌نشانی

برای اطلاعات بیشتر اسکن کنید



تهران . خیابان سعدی شمالی . خیابان

شهید هرادى نور . پلاک ۳۱ . واحد ۱



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۷۷۶۷۸۶۵۹ 

## SPECIFICATION

50Hz

Rev. H

PUMP		
Liquid Handled	Type of liquid	Clean water
	Working temperature [°C]	-5 all standard version +90 H, HS, HW, HSW version +110 E version +120
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
	Shaft seal type	Mechanical seal
	Bearing	Bearing with contact seal
Pipe Connection	Suction	Flange DN 50, 65 according to EN 1092-2 Flange DN 80 according to UNI 2236-67 (4 holes)
	Discharge	Flange DN 32, 40, 50, 65 according to EN 1092-2
Material	Casing	Cast iron EN-GJL-250-EN 1561
	Impeller	EN 1.4301 (AISI 304) - 32, 40, 50 series EN 1.4401 (AISI 316) made by precision casting - 65 series
	Shaft seal	Ceramic/Carbon/NBR (see Optionals on pag. 306)
	Shaft / Coupling	EN 1.4301 (AISI 304) (wet extension)
	Bracket	Aluminium/Cast iron
Accessory	Counterflange	DN 32, 40, 50, 65, 80 (see pag. 311)
Applicable standard of test		ISO 9906:2012 – Grade 3B

MOTOR			
Type	3D4	3DS4	3DP4
	Electric - TEFC		
	Three Phase		
Efficiency (Reg. 1781/2019)	IE2 from 0.25 kW up to 0.55 Kw IE3 from 0.75 kW up to 3.0 kW		
No. of Poles	4		
Rotation speed [min <sup>-1</sup> ]	≈1400		
Insulation Class	F (class B for temperature rise)		
Protection degree	IP 55		
Power rating [kW]	0.25 ÷ 3		
	[HP] 0.33 ÷ 4		
Frequency [Hz]	50		
Voltage [V]	230/400 ±10%	230/400 ±10%	
Over load protection	Provided by the user		
Casing material	Aluminium		
Motor support	Cast Iron - Aluminium		
Dimensions of cable entry	PG11, PG13.5, PG16	M10x15, M20x1.5, M25x1.5	
Flange mount (IEC motor)	/	IM B5 (up to 1.5 kW)  IM B35 (2.2 kW and above)	IM B3

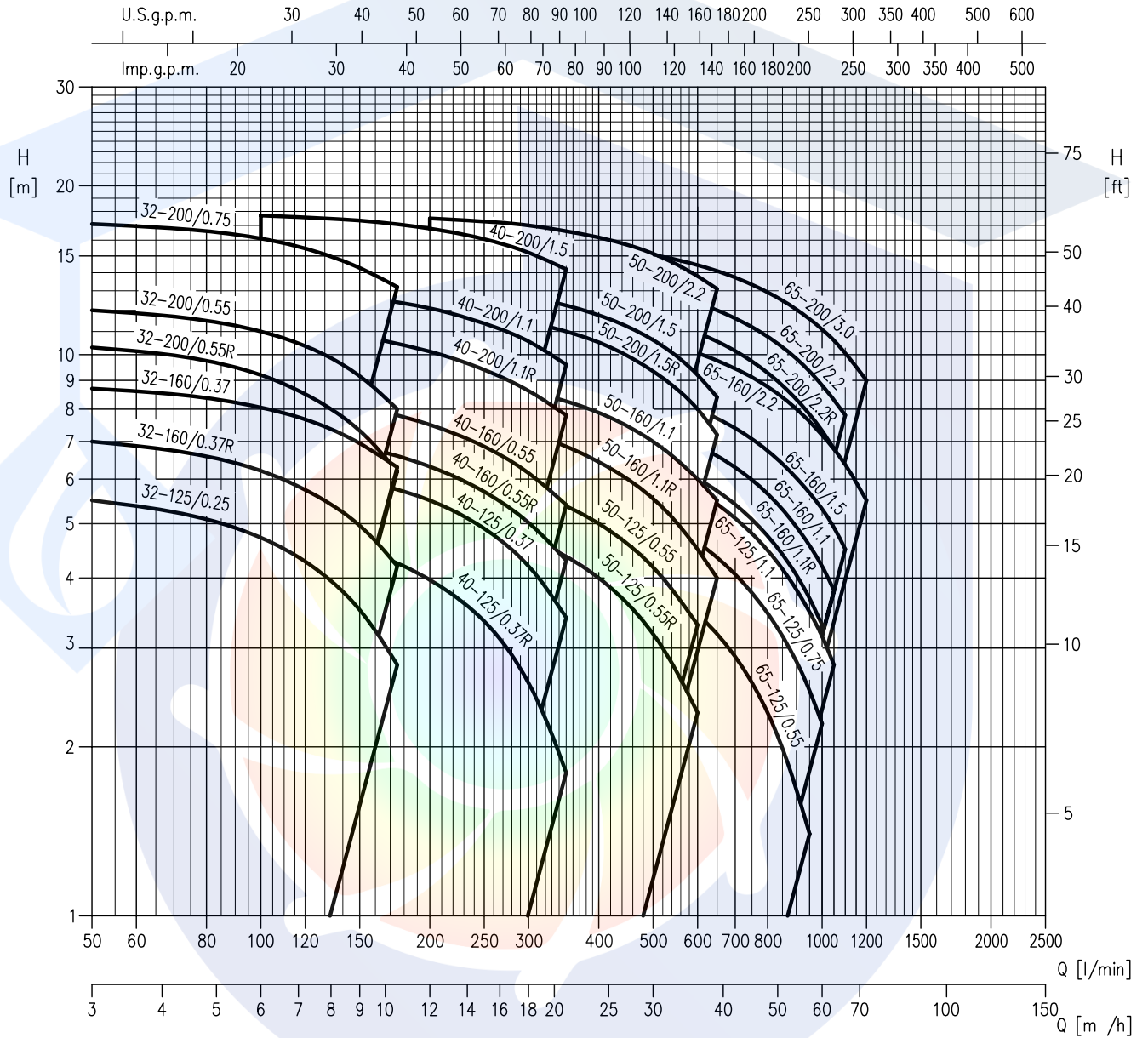
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## SELECTION CHART

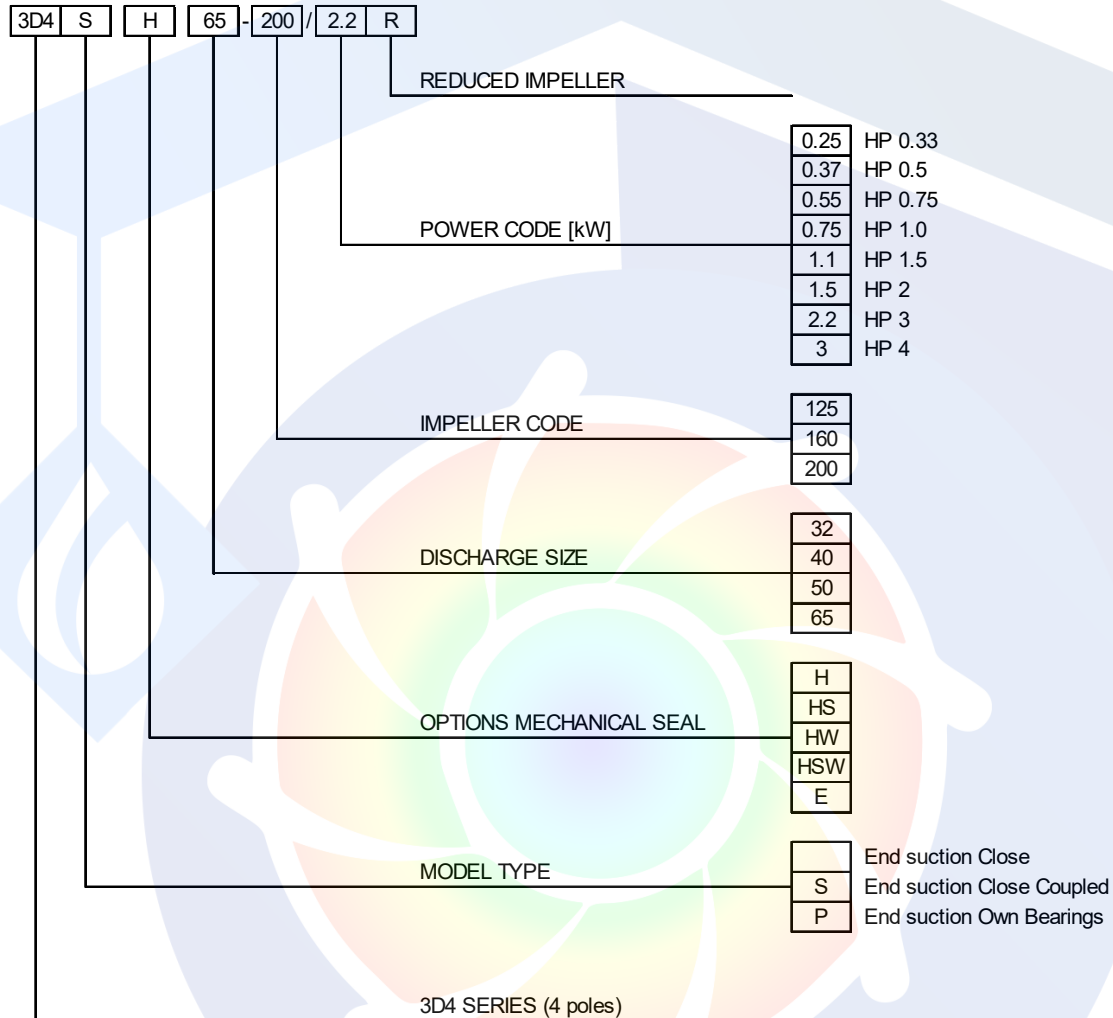
50Hz

Rev. H



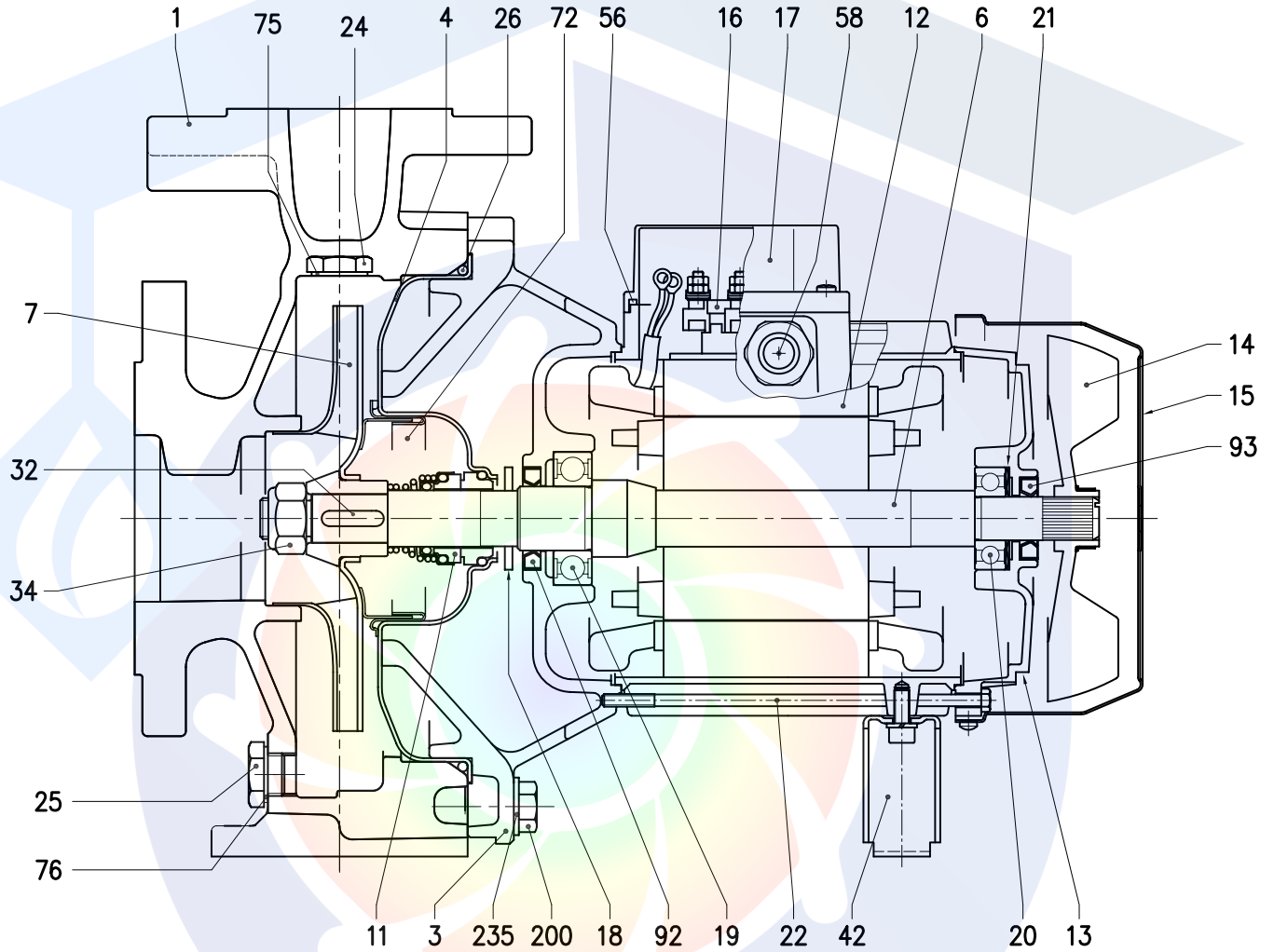
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TYPE KEY



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3D4 SECTIONAL VIEW DRAWING



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## 3D4 SECTIONAL VIEW TABLE

N°	PART NAME	MATERIAL	DIMENSIONS	STANDARD	Q.TY
001	Casing	Cast iron EN-GJL-250-EN 1561			1
003	Motor bracket	[1]			1
004	Casing cover	EN 1.4301 (AISI 304)			1
006	Shaft with rotor - Wet extension	EN 1.4301 (AISI 304)			1
007	Impeller	[2]			1
011	Mechanical seal	[3]	[3]		1
012	Motor frame with stator	-			1
013	Motor cover	Aluminium			1
014	Fan	PA			1
015	Fan cover	Fe P04 Galvanized			1
016	Terminal	-			1
017	Terminal box cover	Aluminium (three phase version)			1
018	Splash ring	NBR	40x21.5x2	EBARA DRAWING	1
019	Bearing	-	See table p. 307		1
020	Bearing	-	See table p. 307		1
021	Adjusting ring	Steel C70			1
022	Tie rod	Fe 42 Galvanized	M5	EBARA DRAWING	4
24	Priming plug	Brass	G 3/8" L=8		1
25	Draing plug	Brass	G 3/8" L=8		1
026	"O" ring	NBR [4]	32-125, 40-125	OR 6625	1
			32-160, 40-160, 50-125, 65-125	OR 6720	
			32-200, 40-200, 50-160, 50-200, 65-160, 65-200	OR 6895	
				227.96x5.34	
032	Key	EN 1.4401 (AISI 316)	A 6x6x25	UNI 6604	1
034	Impeller nut	EN 1.4301 (AISI 304)	Other models	M16x1.5	1
			50-200/2.2	M18x1.5	
042	Foot	Aluminium / Galvanized steel		EBARA DRAWING	1
056	Box gasket	NBR			1
058	Cable gland	-			1
072	Casing ring [5]	EN 1.4301 (AISI 304)			1
075	Washer	Aluminum			1
076	Washer	Aluminum	22x17x1.5	EBARA DRAWING	1
092	Lip seal	-	Up to 1.5 kW	25x40x7	1
			From 2.2 to 3 kW	30x47x7	
093	Lip seal	-	For 0.25 kW	15x30x5	1
			For 0.37 kW and 0.55 kW	17x32x7	
			For 0.75 kW to 3 kW	25x40x7	
200	Screw	Gv. Steel 8.8 strenght class ISO 898-1	32-125	M 8x30	8
			40-125		
			32-160		
			40-160		
			50-125		
235	Washer	Galvanized Steel	32-200, 40-200	8.4x17	8
			50-160, 50-200		
			65-160, 65-200		
235	Washer	Galvanized Steel	32-125	10.5x21	10
			40-125		
			32-160		
			40-160		
			50-125		
235	Washer	Galvanized Steel	32-200, 40-200	10.5x21	12
			50-160, 50-200		
			65-160, 65-200		

Counterflange kit on request see p. 311

[1] Aluminum AL-EN-1706-AC-46000-D for 3D4 50-200/2.2; 65-125/0.75 and 1.1; 65-160/2.2; 65-200/2.2 and 3 kW  
Cast iron EN-GJL-200-EN 1561 for all the others;

[2] EN 1.4301 (AISI 304) for 32, 40, 50 series;  
EN 1.4401 (AISI 316) for 65 series

[3] For special version and dimensions see pag. 306

[4] FPM for H, HS, HW, HSW version;  
EPDM for E version

[5] Only for: 32-200, 40-200, 50-160, 50-200

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## SELECTION CHART

50Hz

Rev. H

## 3D4 SERIES 32 SIZE

Pump type	kW	HP	l/min				
			0	50	100	150	175
			m³/h				
			0	3	6	9	10.5
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

## 3D4 SERIES 40 SIZE

Pump type	kW	HP	l/min								
			0	100	150	175	200	250	300	350	
			m³/h								
			0	6	9	10.5	12	15	18	21	
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	

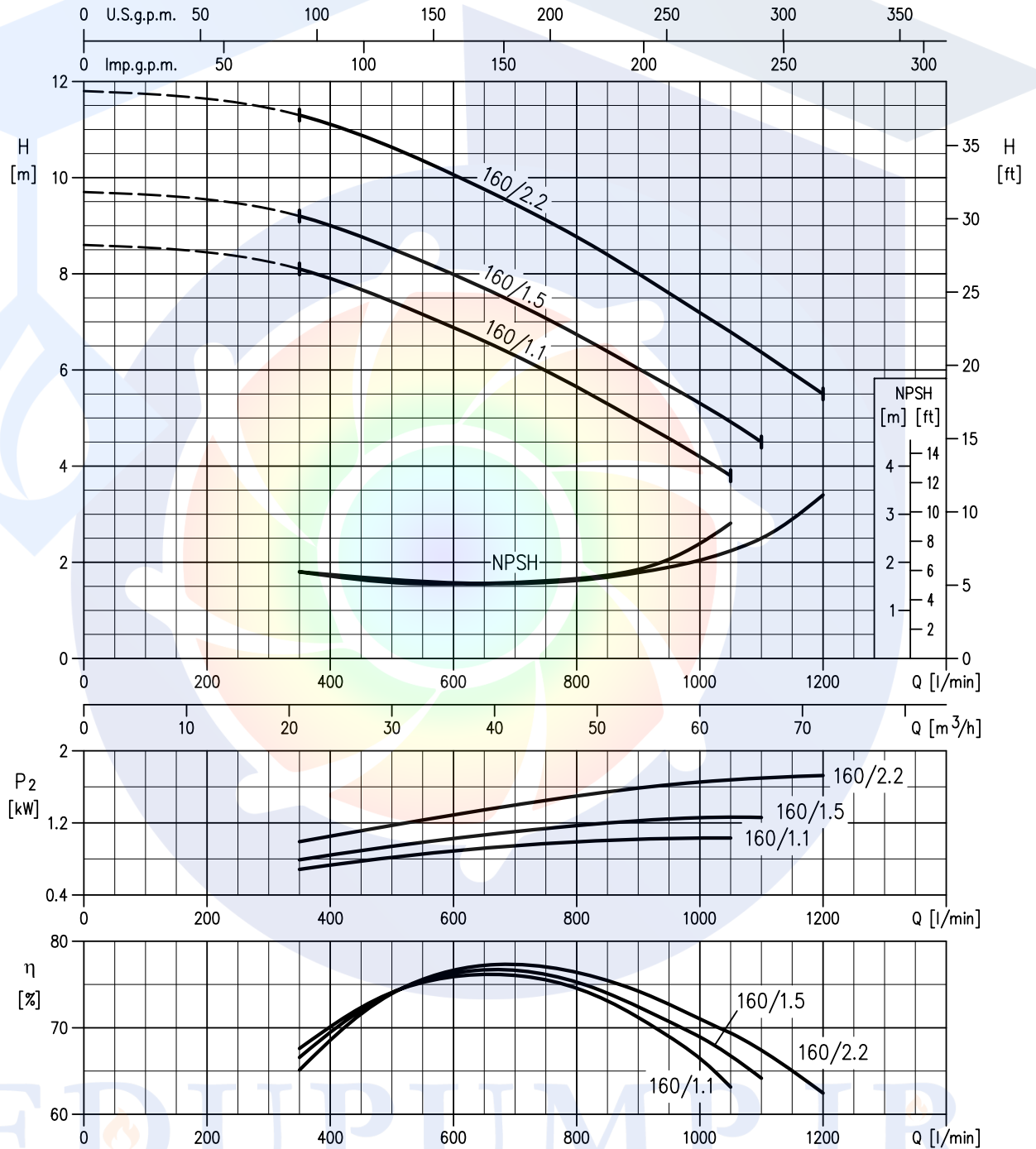
## 3D4 SERIES 50 SIZE

Pump type	kW	HP	l/min									
			0	200	250	300	350	400	500	600	650	
			m³/h									
			0	12	15	18	21	24	30	36	39	
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	

## 3D4 SERIES 65 SIZE

Pump type	kW	HP	l/min										
			0	300	350	500	600	800	950	1000	1050	1100	1200
			m³/h										
			0	18	21	30	36	48	57	60	63	66	72
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

65-160/1.1 (1.1 kW) MEI > 0.70 – impeller diameter = 161 mm  
 65-160/1.5 (1.5 kW) MEI > 0.70 – impeller diameter = 168 mm  
 65-160/2.2 (2.2 kW) MEI > 0.70 – impeller diameter = 178 mm



Rotation speed ≈ 1400 min<sup>-1</sup>

Test standard: ISO 9906:2012 - Grade 3B



**TECHNICAL DATA**

50Hz

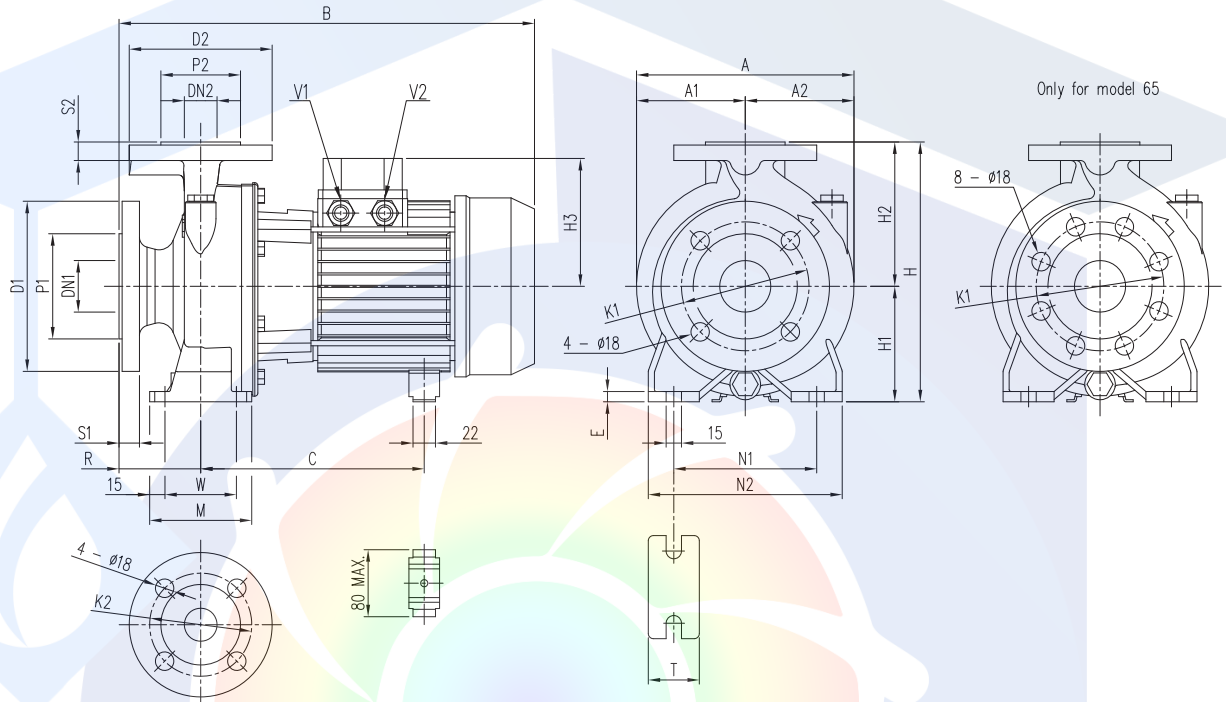
Rev. H

**3D4 MOTOR DATA**

Pump type	Power		Efficiency	Input [kW]	Efficiency (% load) and power-factor				Full load current		Locked rotor current	
	[kW]	[HP]			$\eta$ %			$\cos\phi$	[A]		[A]	
					50%	75%	100%		230 V	400 V	230 V	400 V
3D4 32-125/0.25	0.25	0.33	IE2	0,50	69,4	73,6	74,2	0,71	1,8	1,0	-	7,9
3D4 32-160/0.37R	0.37	0.5	IE2	0,71	71,9	75,9	77,7	0,75	2,4	1,4	-	14,8
3D4 32-160/0.37	0.37	0.5	IE2	0,71	71,9	75,9	77,7	0,75	2,4	1,4	-	14,8
3D4 32-200/0.55R	0.55	0.75	IE2	0,71	71,9	75,9	77,7	0,75	2,4	1,4	-	14,8
3D4 32-200/0.55	0.55	0.75	IE2	0,71	71,9	75,9	77,7	0,75	2,4	1,4	-	14,8
3D4 32-200/0.75	0.75	1	IE3	1,31	81,5	83,4	84,1	0,71	4,6	2,7	-	32,9
3D4 40-125/0.37R	0.37	0.5	IE2	0,50	69,4	73,6	74,2	0,71	1,8	1,0	-	7,9
3D4 40-125/0.37	0.37	0.5	IE2	0,50	69,4	73,6	74,2	0,71	1,8	1,0	-	7,9
3D4 40-160/0.55R	0.55	0.75	IE2	0,71	71,9	75,9	77,7	0,75	2,4	1,4	-	14,8
3D4 40-160/0.55	0.55	0.75	IE2	0,71	71,9	75,9	77,7	0,75	2,4	1,4	-	14,8
3D4 40-200/1.1R	1.1	1.5	IE3	1,31	81,5	83,4	84,1	0,71	4,6	2,7	-	32,9
3D4 40-200/1.1	1.1	1.5	IE3	1,31	81,5	83,4	84,1	0,71	4,6	2,7	-	32,9
3D4 40-200/1.5	1.5	2	IE3	1,76	81,1	84,1	85,3	0,71	6,2	3,6	-	45,0
3D4 50-125/0.55R	0.55	0.75	IE2	0,71	71,9	75,9	77,7	0,75	2,4	1,4	-	14,8
3D4 50-125/0.55	0.55	0.75	IE2	0,71	71,9	75,9	77,7	0,75	2,4	1,4	-	14,8
3D4 50-160/1.1R	1.1	1.5	IE3	1,31	81,5	83,4	84,1	0,71	4,6	2,7	-	32,9
3D4 50-160/1.1	1.1	1.5	IE3	1,31	81,5	83,4	84,1	0,71	4,6	2,7	-	32,9
3D4 50-200/1.5R	1.5	2	IE3	1,76	81,1	84,1	85,3	0,71	6,2	3,6	-	45,0
3D4 50-200/1.5	1.5	2	IE3	1,76	81,1	84,1	85,3	0,71	6,2	3,6	-	45,0
3D4 50-200/2.2	2.2	3	IE3	2,54	86,1	87,0	86,7	0,78	7,8	4,5	-	53,7
3D4 65-125/0.55	0.55	0.75	IE2	0,71	71,9	75,9	77,7	0,75	2,4	1,4	-	14,8
3D4 65-125/0.75	0.75	1	IE3	1,31	81,5	83,4	84,1	0,71	4,6	2,7	-	32,9
3D4 65-125/1.1	1.1	1.5	IE3	1,31	81,5	83,4	84,1	0,71	4,6	2,7	-	32,9
3D4 65-160/1.1	1.1	1.5	IE3	1,31	81,5	83,4	84,1	0,71	4,6	2,7	-	32,9
3D4 65-160/1.5	1.5	2	IE3	1,76	81,1	84,1	85,3	0,71	6,2	3,6	-	45,0
3D4 65-160/2.2	2.2	3	IE3	2,54	86,1	87,0	86,7	0,78	7,8	4,5	-	53,7
3D4 65-200/2.2R	2.2	3	IE3	2,54	86,1	87,0	86,7	0,78	7,8	4,5	-	53,7
3D4 65-200/2.2	2.2	3	IE3	2,54	86,1	87,0	86,7	0,78	7,8	4,5	-	53,7
3D4 65-200/3	3	4	IE3	3,42	85,7	87,7	87,8	0,72	11,8	6,8	-	83,1

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## PUMP 3D4



Pump type	Dimensions [ mm ]																										Weight [ kgf ]	
	ø DN1	ø P1	ø K1	ø D1	S1	ø DN2	ø P2	ø K2	ø D2	S2	H	H1	H2	H3	R	W	M	N1	N2	T	E	A	A1	A2	B	C		V2
32-125/0.25	50	102	125	165	20	32	78	100	140	18	252	112	140	102	80	70	100	140	190	50	10	213	106,5	106,5	371	205	PG 11	25,1
32-160/0.37R	50	102	125	165	20	32	78	100	140	18	292	132	160	119	80	70	100	190	240	50	10	254	127	127	393	219	PG 11	33,4
32-160/0.37	50	102	125	165	20	32	78	100	140	18	292	132	160	119	80	70	100	190	240	50	10	254	127	127	393	219	PG 11	33,7
32-200/0.55R	50	102	125	165	20	32	78	100	140	18	340	160	180	119	80	70	100	190	240	50	10	296	148	148	393	219	PG 11	38,2
32-200/0.55	50	102	125	165	20	32	78	100	140	18	340	160	180	119	80	70	100	190	240	50	10	296	148	148	393	219	PG 11	38,2
32-200/0.75	50	102	125	165	20	32	78	100	140	18	340	160	180	124	80	70	100	190	240	50	10	296	148	148	432	244+255	PG 13.5	39,5
40-125/0.37R	65	122	145	185	20	40	88	110	150	18	252	112	140	102	80	70	100	160	210	50	10	213	108	112	371	205	PG 11	27,0
40-125/0.37	65	122	145	185	20	40	88	110	150	18	252	112	140	102	80	70	100	160	210	50	10	213	108	112	371	205	PG 11	27,1
40-160/0.55R	65	122	145	185	20	40	88	110	150	18	292	132	160	119	80	70	100	190	240	50	12	254	127	127	393	219	PG 11	34,5
40-160/0.55	65	122	145	185	20	40	88	110	150	18	292	132	160	119	80	70	100	190	240	50	12	254	127	127	393	219	PG 11	35,0
40-200/1.1R	65	122	145	185	20	40	88	110	150	18	340	160	180	124	100	70	100	212	265	50	12	296	148	148	452	244+255	PG 13.5	41,2
40-200/1.1	65	122	145	185	20	40	88	110	150	18	340	160	180	124	100	70	100	212	265	50	12	296	148	148	452	244+255	PG 13.5	41,3
40-200/1.5	65	122	145	185	20	40	88	110	150	18	340	160	180	124	100	70	100	212	265	50	12	296	148	148	491	244+255	PG 13.5	43,0
50-125/0.55R	65	122	145	185	20	50	102	125	165	20	292	132	160	119	100	70	100	190	240	50	10	254	127	127	413	219	PG 11	35,0
50-125/0.55	65	122	145	185	20	50	102	125	165	20	292	132	160	119	100	70	100	190	240	50	10	254	127	127	413	219	PG 11	35,1
50-160/1.1R	65	122	145	185	20	50	102	125	165	20	340	160	180	124	100	70	100	212	265	50	10	296	148	148	452	244+255	PG 13.5	42,2
50-160/1.1	65	122	145	185	20	50	102	125	165	20	340	160	180	124	100	70	100	212	265	50	10	296	148	148	452	244+255	PG 13.5	42,3
50-200/1.5R	65	122	145	185	20	50	102	125	165	20	360	160	200	124	100	70	100	212	265	50	10	296	148	148	491	244+255	PG 13.5	43,4
50-200/1.5	65	122	145	185	20	50	102	125	165	20	360	160	200	124	100	70	100	212	265	50	10	296	148	148	491	244+255	PG 13.5	44,5
50-200/2.2	65	122	145	185	20	50	102	125	165	20	360	160	200	141	100	70	100	212	265	50	10	296	148	148	474	253	PG 16	42,9
65-125/0.55	80	138	160	200	22	65	122	145	185	20	340	160	180	119	100	95	125	212	280	65	12	263	127	136	413	219	PG 11	40,2
65-125/0.75	80	138	160	200	22	65	122	145	185	20	340	160	180	124	100	95	125	212	280	65	12	263	127	136	452	244+255	PG 13.5	35,3
65-125/1.1	80	138	160	200	22	65	122	145	185	20	340	160	180	124	100	95	125	212	280	65	12	263	127	136	452	244+255	PG 13.5	35,3
65-160/1.1	80	138	160	200	22	65	122	145	185	20	360	160	200	124	100	95	125	212	280	65	12	296	148	148	452	244+255	PG 13.5	44,6
65-160/1.5	80	138	160	200	22	65	122	145	185	20	360	160	200	124	100	95	125	212	280	65	12	296	148	148	491	244+255	PG 13.5	46,1
65-160/2.2	80	138	160	200	22	65	122	145	185	20	360	160	200	141	100	95	125	212	280	65	12	296	148	148	474	253	PG 16	48,1
65-200/2.2R	80	138	160	200	22	65	122	145	185	20	405	180	225	141	100	95	125	250	320	65	12	312	154,5	157,5	474	253	PG 16	46,5
65-200/2.2	80	138	160	200	22	65	122	145	185	20	405	180	225	141	100	95	125	250	320	65	12	312	154,5	157,5	474	253	PG 16	46,5
65-200/3	80	138	160	200	22	65	122	145	185	20	405	180	225	141	100	95	125	250	320	65	12	312	154,5	157,5	514	253	PG 16	54,5

# شرکت پیشگامان صنعت و ایمنی پرگاس



گروه تخصصی اطفاء حریق

 [Edufire.ir](http://Edufire.ir)

 [Edufire.ir](https://www.instagram.com/Edufire.ir)



گروه تخصصی سیستم‌های پمپاژ

 [Edupump.ir](http://Edupump.ir)

 [Edupump.ir](https://www.instagram.com/Edupump.ir)



گروه تخصصی اعلان حریق

 [Edualarm.ir](http://Edualarm.ir)

 [Edualarm.ir](https://www.instagram.com/Edualarm.ir)



گروه تخصصی تاسیسات مکانیکی

 [Eduhvac.ir](http://Eduhvac.ir)

 [Eduhvac.ir](https://www.instagram.com/Eduhvac.ir)