



INM



Capacity up to 360 m³/h - Total Head up to 100 m.

Motor Power Up to 45 KW.

Temperature up to 90 °C (140 °C) - Operating Pressure 10 Bar.

HMA PUMPS - Providing Energy Efficient Solutions

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General Specifications

Fields of Application

The MAS in-line pumps are designed for water supply, Boosting, circulating of hot and cold water in central heating and air-conditioning installations and liquid transfer applications in industry, agriculture, horticulture etc.

Pumped Liquids

Thin, clean, non-aggressive and non-explosive liquids free from large solid particles or fibres. Cooling liquids, not containing mineral oil. Oil-resistant O-rings are available on request.

Design

The INM pumps are single-stage, centrifugal pumps of non self-priming type fitted with standard motors and mechanical shaft seals.

The nominal flow rates of the pumps comply with the EN 733 standards.

Pump flanges sizes according to DIN 2533, PN 16. The dimensions of the suction and discharge ports are identical.

Both pump flanges have pressure gage tapings. Single entry, closed impeller is hydraulically thrust compensated and dynamically balanced.

A drain plug is fitted in the bottom of pump housing. Pump and motor are separate components. There is no common shaft for motor and pump. Pump shaft (Stud Shaft) is direct coupled To motor shaft.

Bare shaft pump is also available.

There is a setting clip fixed the pump shaft and impeller to the casing at the right position. It is also prevents the mechanical seal while transportation.

INM Pumps are designed in modular system. There are 23 basic casing and impeller sizes. By using 3 size of mech. Seals, 15 pump shafts, 10 adaptors, 9 adaptor flanges and we obtain 141 type pump unit. We use 40 type of standart electric motors for this application.

Shaft Seal

INM pumps are fitted with a single, uncooled and unbalanced rubber bellow mechanical seal. Mechanical seal flushed from internal source. The circulation of liquid in the duct of the air vent screw ensures lubrication and cooling of the shaft seal.

Technical Data

- Suction & Disch. Nozzles :.....DN 40 ...DN 150
- Operating Pressure: 10 Bar
- Casing Test Pressure : 13 Bar
- Speed Range: 900 - 3600 rpm
- Capacity Range : 2 - 360 m³ / h
- Head Range : 4 - 100 m .

Pump Flanges

According to DIN 2533 - PN 16

Identification Code : INM 100 - 250 / 150 4

Pump Type: INM

Nozzles DN (mm): 100

Rated Impeller Diameter(mm): 250

Rated Motor Power (KW) x 10: 150

No of Poles: 4

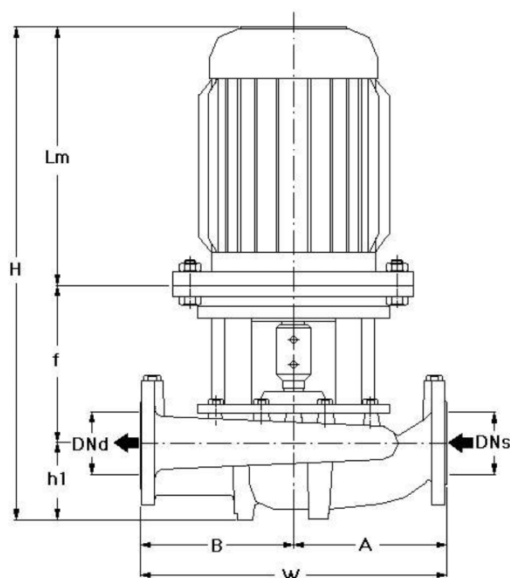
Above mentioned Code Means INM 100 - 250 Type Pump With 15 KW - 4 Pole Motor

Material

Component	M A T E R I A L				
	STANDARD	Bronze Impeller	All bronze	Carbon Steel	Stainless Steel
Casing	GG 25	GG 25	Bronze	GS 45	SS 304 - 316
Casing Cover	GG 25	GG 25	Bronze	GS 45	SS 304 - 316
Impeller	GG 25	Bronze	Bronze	GS 45	SS 304 - 316
Wear Ring	GGG-40	GGG-40	Bronze	Bronze	SS 304 - 316
Shaft	X20Cr13	X20Cr13	X20Cr13	X20Cr13	SS 304 - 316
Motor Adapter	GG 25	GG 25	Bronze	GS 45	SS 304 - 316



Overall Dimensions



INM - (2900 RPM)

Pump Id. Code	KW	Nozzle	Dimensions (mm)						
		Size	Lm	W	H	A	B	h1	f
INM 40 - 160 / 152 / 222 / 302 / 402 / 552	1.5	DN 40	250	320	490	160	160	80	160
	2.2		275		515				160
	3		275		515				160
	4		324		584				180
	5.5		324		584				180

INM 40 - 200 / 402 / 552 / 752 / 1102	4	DN 40	324	380	599	190	190	95	180
	5.5		324		624				205
	7.5		375		675				205
	11		484		809				230

INM 40 - 250 / 752 / 1152 / 1502 / 1852	7.5	DN 40	375	440	688	215	225	100	213
	11		484		822				238
	15		484		822				238
	18.5		528		866				238

INM 50 - 160 / 302 / 402 / 552 / 752	3	DN 50	305	360	585	180	180	100	180
	4		324		604				180
	5.5		375		675				200
	7.5		375		675				200

INM 50 - 200 / 552 / 752 / 1102 / 1502	5.5	DN 50	375	400	690	200	200	110	205
	7.5		375		690				205
	11		484		824				230
	15		484		824				230

INM 50 - 250 / 1502 / 1852 / 2202 / 3002	15	DN 50	484	440	829	215	225	115	230
	18.5		528		873				230
	22		544		889				230
	30		582		927				230

Pump Id. Code	KW	Nozzle	Dimensions (mm)						
		Size	Lm	W	H	A	B	h1	f
INM 65 - 160 / 402 / 552 / 752 / 1102	4	DN 65	324	400	619	200	200	115	180
	5.5		324		639				200
	7.5		375		690				200
	11		484		799				200

INM 65 - 200 / 752 / 1102 / 1502 / 1852	7.5	DN 65	375	460	695	230	230	115	205
	11		484		829				230
	15		484		829				230
	18.5		528		873				230

INM 65 - 250 / 2202 / 3002 / 3702 / 4502	22	DN 65	544	480	919	245	245	135	240
	30		544		919				240
	37		637		1032				260
	45		637		1032				260

INM 80 - 160 / 552 / 752 / 1102 / 1502 / 1852	5.5	DN 80	324	440	669	220	220	135	
	7.5		375		720				210
	11		484		859				240
	15		484		859				240
	18.5		528		903				240

INM 80 - 200 / 1502 / 1852 / 2202 / 3002 / 3702	15	DN 80	484	500	854	250	250	140	230
	18.5		528		898				230
	22		544		914				230
	30		755		1155				260
	37		755		1155				260

INM 100 - 160 / 752 / 1102 / 1852 / 2202 / 2202	7.5	DN 100	375	500	740	250	250	155	210
	11		484		879				240
	15		484		879				240
	18.5		528		923				240
	22		544		923				240

INM 100 - 200 / 2202 / 3002 / 3702 / 4502	22	DN 100	544	550	947	275	275	180	250
	30		755		1215				280
	37		755		1215				280
	45		755		1215				280



INM - (1450 RPM)

Pump Id. Code	KW	Nozzle	Dimensions (mm)						
		Size	Lm	W	H	A	B	h1	f
INM 40 - 160 / 034 / 054 / 074	0.55	DN 40	233	320	473	160	160	80	160
	0.55		233		473				160
	0.75		233		473				160

INM 40 - 200 / 054 / 074 / 114 / 154	0.55	DN 40	233	380	488	190	190	95	160
	0.75		233		488				160
	1.1		250		506				160
	1.5		275		506				160

INM 40 - 250 / 114 / 154 / 224	1.1	DN 40	250	440	520	215	225	100	170
	1.5		275		545				170
	2.2		305		595				190

INM 50 - 160 / 054 / 074 / 114	0.55	DN 50	233	360	493	180	180	110	160
	0.75		233		493				160
	1.1		250		510				160

INM 50 - 200 / 054 / 074 / 114 / 154	0.55	DN 50	233	400	503	200	200	110	160
	0.75		233		503				160
	1.1		250		520				160
	1.5		275		545				160

INM 50 - 250 / 154 / 224 / 304	1.5	DN 50	275	440	570	215	225	115	180
	2.2		305		600				180
	3		305		600				180

INM 65 - 160 / 074 / 114 / 154	0.75	DN 65	233	400	508	200	200	115	160
	1.1		250		525				160
	1.5		275		550				160

INM 65 - 200 / 074 / 114 / 154 / 224	0.75	DN 65	233	460	508	230	230	115	160
	1.1		250		525				160
	1.5		275		550				160
	2.2		305		550				160

INM 65 - 250 / 224 / 304 / 404 / 554	2.2	DN 65	305	480	655	245	235	135	215
	3		305		655				215
	4		324		674				215
	5.5		375		750				240

INM 80 - 160 / 074 / 114 / 154 / 224	0.75	DN 80	233	440	538	220	220	135	170
	1.1		250		556				170
	1.5		275		580				170
	2.2		305		630				190

INM 80 - 200 / 224 / 304 / 404	2.2	DN 68	305	500	625	250	250	140	180
	3		305		625				180
	4		324		644				180

INM 80 - 250 / 304 / 404 / 554 / 754	3	DN 80	305	550	665	270	280	145	215
	4		324		684				215
	5.5		375		735				215
	7.5		413		773				215
	7.5		413		773				215

INM 80 - 315 / 554 / 754 / 904 / 1104 / 1504	5.5	DN 80	375	600	750	300	300	160	215
	7.5		413		788				215
	9		413		788				215
	11		484		884				240
	15		528		928				240

Pump Id. Code	KW	Nozzle	Dimensions (mm)						
		Size	Lm	W	H	A	B	h1	f
INM 100 - 160 / 114 / 154 / 224 / 304	1.1	DN 100	250	500	565	250	250	155	160
	1.5		275		590				160
	2.2		305		640				180
	3		305		640				180

INM 100 - 200 / 224 / 304 / 404 / 554 / 754 / 904	2.2	DN 100	305	550	675	275	275	160	190
	3		305		675				190
	4		324		694				190
	5.5		375		770				215
	7.5		413		808				215
	9		413		808				215

INM 100 - 250 / 554 / 754 / 1104 / 1504	5.5	DN 100	375	600	780	320	280	190	215
	7.5		413		818				215
	11		484		914				240
	15		528		958				240

INM 100 - 315 / 1104 / 1504 / 1854 / 1204	11	DN 100	484	650	914	335	315	190	240
	15		528		958				240
	18.5		528		958				240
	22		582		1012				240

INM 125 - 200 / 304 / 404 / 554 / 754 / 904	3	DN 125	305	660	705	350	300	210	190
	4		324		724				190
	5.5		375		800				215
	7.5		413		838				215
	9		413		838				215

INM 125 - 250 / 554 / 754 / 1104 / 1504 / 1854	5.5	DN 125	375	650	800	350	300	210	215
	7.5		413		838				215
	11		484		934				240
	15		528		978				240
	18.5		544		994				240

INM 125 - 315 / 1854 / 2204 / 3004 / 3704	18.5	DN 125	544	700	994	370	330	210	240
	22		582		1032				240
	30		755		1230				265
	37		755		1230				265

INM 150 - 200 / 554 / 754 / 1104 / 1504	5.5	DN 150	375	650	780	335	315	190	215
	7.5		413		818				215
	11		484		914				240
	15		528		958				240

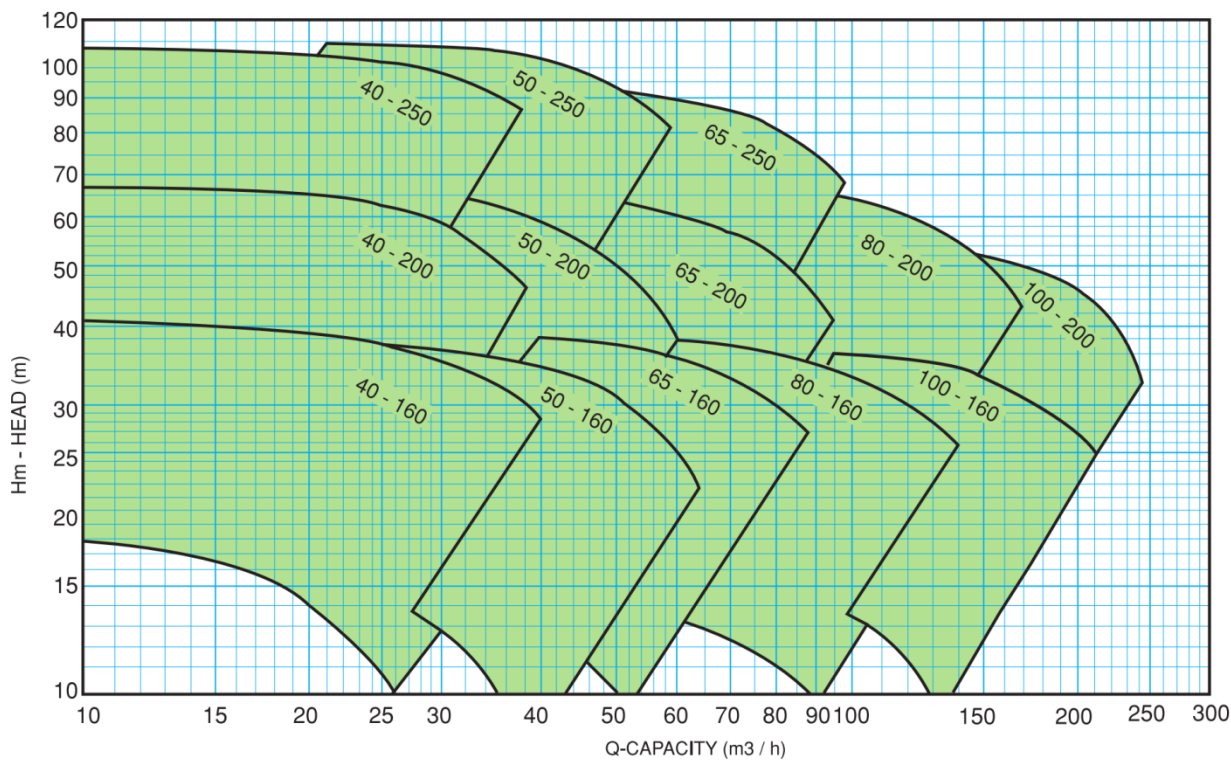
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	11		484		914				250
	15		528		958				250
	18.5		544		974				250
	22		582		1012				250
	30		755		1215				250

INM 150 - 315 / 1854 / 2204 / 3004 / 3704	18.5	DN 150	544	770	1009	390	380	210	255
	22		582		1047				255
	30		755		1250				285
	37		755		1250				285

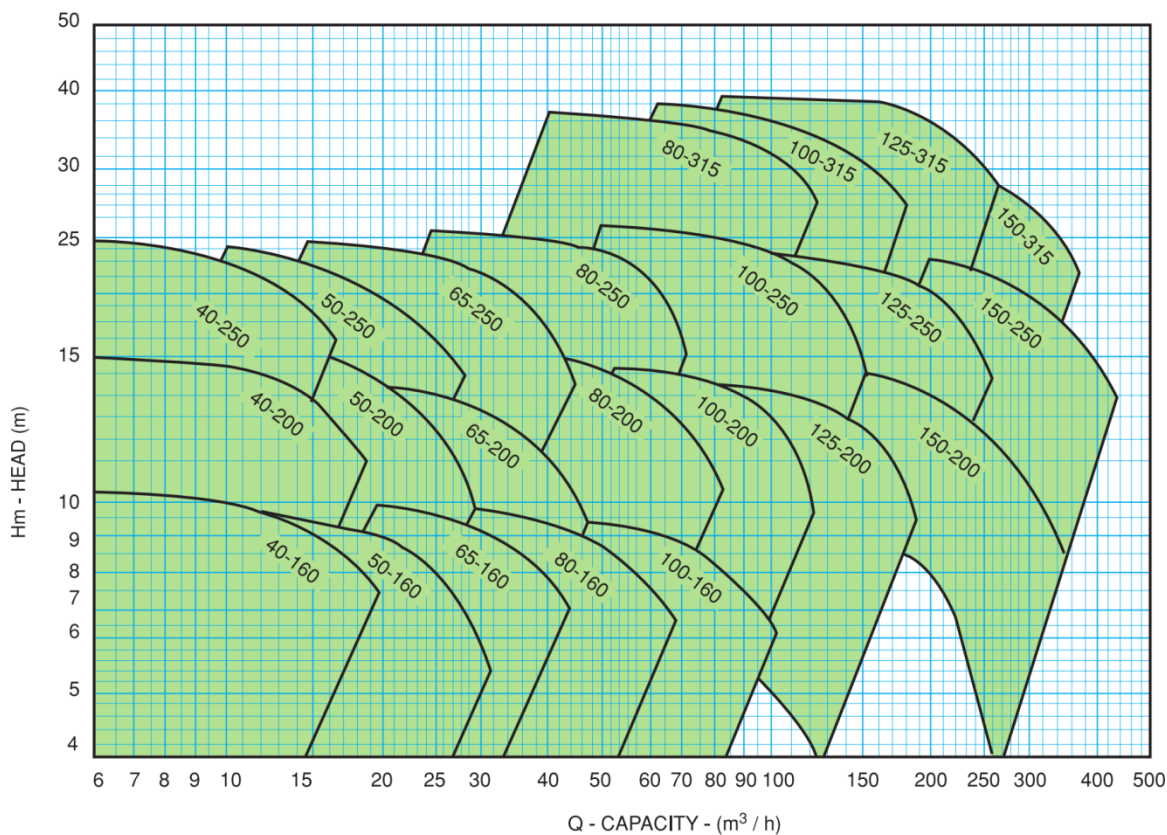


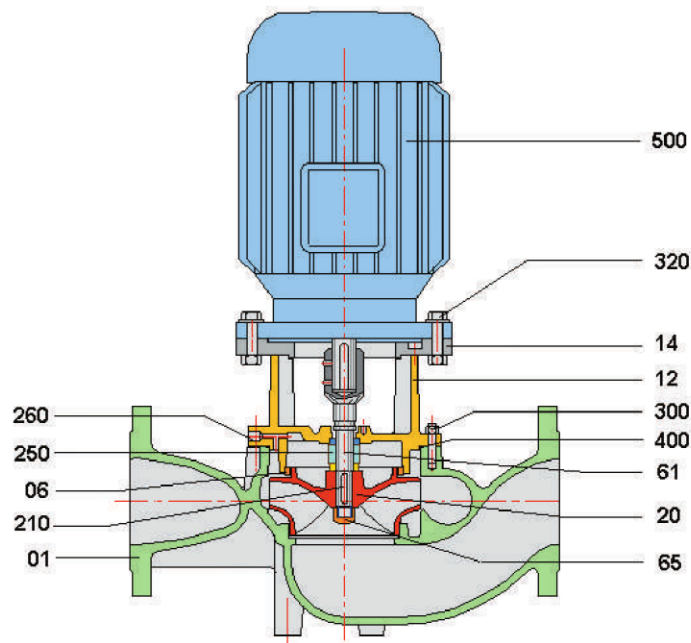


PERFORMANCE RANGE - INM (2900 RPM)



PERFORMANCE RANGE - INM (1450 RPM)





Part List

01 Pump Casing
06 Wearing Ring
12 Adapter
14 Adapter Flange
20 Impeller

61 Pump Shaft
65 Impeller Nut
210 Impeller Key
250 Mechanical Seal

260 Air Vent
300 Casing Stud & Nut
320 Hex. Bolt
400 O - Ring for Casing
500 Standard Motor

INSTALLATION

INL pumps can be installed with the motor (Motor centre line) in all positions between vertical and horizontal. To avoid that the water penetrates motor and bearings, the motor must never fall below the horizontal.

