

MXV-B 60 Hz

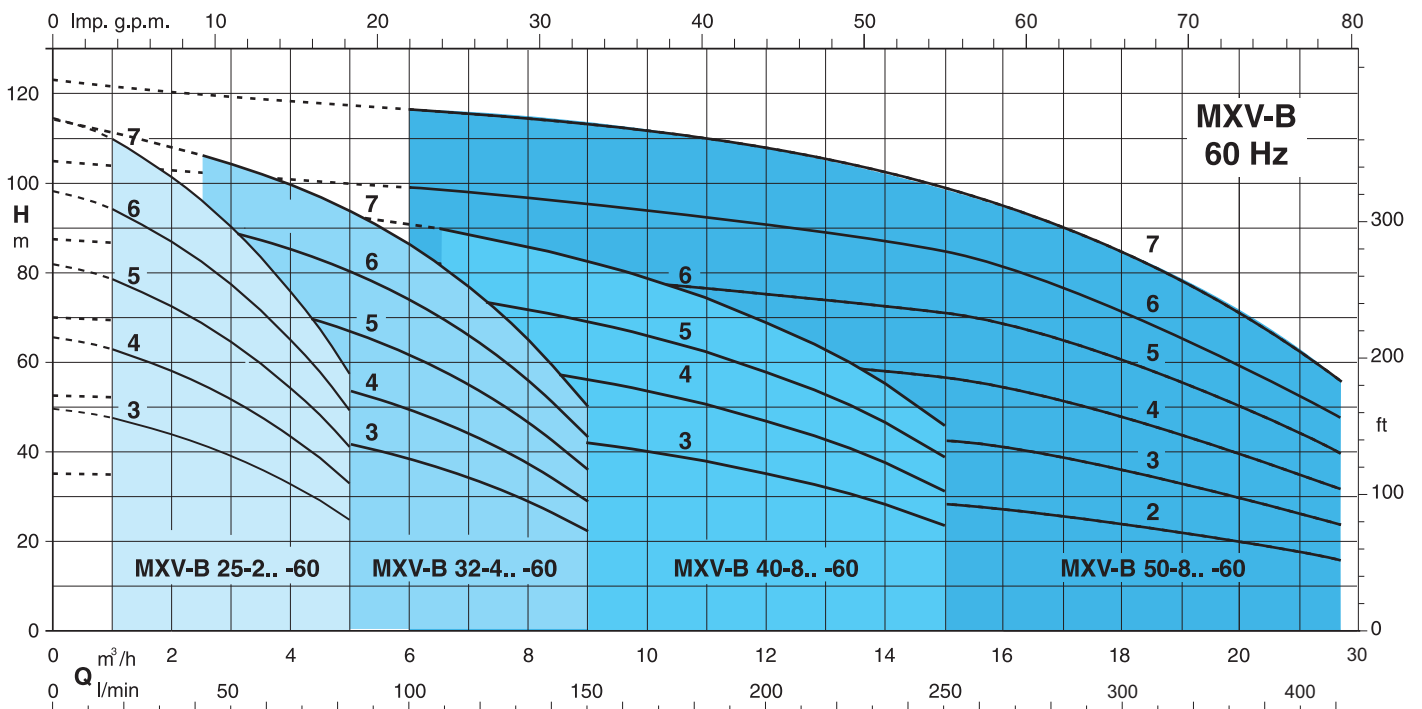


Vertical Multi-Stage Close Coupled Pumps 立式多段直結式泵浦



Coverage chart - 性能總表

$n \approx 3450$ rpm



Construction

Vertical multi-stage close coupled pumps with suction and delivery connections of the same diameter and arranged along the same axis (in-line). All parts that come into contact with the liquid, including wet-end covers, are in chrome-nickel stainless steel with corrosion-resistant bearing sleeves lubricated by the pumped liquid.

Version with frequency converter (on request)

Applications

For water supply systems.
For clean non-explosive liquids, without solid, filamentary or abrasive matter and non-aggressive for stainless steel (with adaptation of sealing materials on request).
A universal pump for civil and industrial use, for pressure-boosting systems, fire-extinguishing systems, high-pressure washing plants, irrigation, agricultural uses and sport installations.

Operating conditions

Temperature of liquid: from -15 °C to +90 °C.
Operating environment temperature: up to 40 °C.
Maximum permissible pressure in pump casing: 16 bar.

Motor

2-pole induction motor, 60 Hz (n = 3450 rpm).
MXV-B: three-phase 220/380 V, 220/440 V, up to 3 kW;
380/660 V, from 4 kW;
MXV-BM: single-phase 110 V, 127 V, 220 V,
with thermal protector up to 1.1 kW only 220V.
Capacitor inside the terminal box.

Insulation class F.
Protection IP 54.
Motor suitable for operation with frequency converter from 2,2 kW.
Classification scheme IE2 for three-phase motors.
Constructed in accordance with: EN 60034-1, EN 60034-30.
EN 60335-1, EN 60335-2-41.

Special features on request

- Other voltages.
- Protection IP 55.
- Special mechanical seal
- Pump casing seal rings in FPM.
- Higher or lower liquid or ambient temperatures.
- Flanges to screw, in chrome-nickel steel.
- Motor suitable for operation with frequency converter up to 1,5 kW.

Materials (wetted parts)

Component	Material
External jacket Suction casing Delivery casing Stage casing Impeller Lower cover Upper cover Spacer sleeve	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Pump shaft Plug	Chrome-nickel steel 1.4305 EN 10088 (AISI 303)
Mechanical seal ISO 3069 - KU	Ceramic alumina/Carbon/EPDM
Wear ring	PTFE
O-ring	NBR

Designation

Series MXV-B M 25 - 2 05
Single-phase motor (up to 1,5 kW)
DN ports in mm
Rated capacity in m³/h
Number of stages

結構

直立多段不銹鋼泵浦，吸水和排水口尺寸相同，且並列於同一直線上(In-line)。
全部與液體接觸之零件，皆為不鏽鋼材質耐腐蝕性。
水潤滑軸承可藉由泵浦輸送之液體加以潤滑。

搭配變頻器 (依需求提供)

應用

供水系統之應用。
無爆裂物質、無顆粒、無雜質或不具腐蝕性之乾淨液體。
(依需求供應適用之軸封材質)
泛用型泵浦，適用於民生、工業、加壓系統、消防設備、高壓清洗機、園藝、農業灌溉及運動場地之應用。

操作條件

液體溫度 -15°C 至 +90°C
周圍溫度至 40°C
泵浦本體可承受最大壓力值為 16 bar。

馬達

2極感應電動馬達，60Hz(n=3450 rpm)。
MXV-B: 三相 220/380 V, 220/440 V, 3 kW 以下;
380/660 V, 4 kW 以上。
MXV-BM: 單相 110 V, 127 V, 220 V
只有 220 V 可搭配 1.1 kW 以下過熱保護器
接線盒內配有電容器。

絕緣等級: F
保護等級: IP54
馬達適用於 2.2kW 以上之變頻器。
三相使用歐盟效能指標高效率 IE2。
結構設計符合 EN 60034-1; EN 60034-30。
EN 60335-1, EN 60335-2-41 之規範。

特殊需求

- 其他電壓
- 保護等級 IP55
- 特殊機械軸封
- 可更換 FPM 材質之泵浦外殼墊片
- 更高/低液體或周遭溫度需求
- 不銹鋼材質之法蘭及螺絲
- 1.5kW 以下馬力數直接搭配變頻器使用

材質

結構	材質
泵浦外罩 吸入端外殼 出水罩 導葉輪 葉片 葉片 底盤 頂盤 軸套	不鏽鋼材質 1.4301 EN 10088 (AISI 304)
泵浦軸心 塞頭	不鏽鋼材質 1.4305 EN 10088 (AISI 303)
機械軸封 依據 ISO 3069 - KU	氧化鋁陶瓷 / 碳精 / EPDM
磨損環	PTFE
O型環	NBR

型號說明

機種代號 MXV-B M 25 - 2 05
單相馬達 (1,5 kW 以下)
DN 口徑尺寸 (單位 mm)
水量 (單位 m³/h)
葉片段數

Pumps with frequency converter

The **MXV-B EI** pumps are available with power from 0,75 kW up to 4 kW, the pumps are equipped with **I-MAT** installed on board which allows to realize a variable-speed system extremely compact and efficient, ideal in applications of water supply and in the distribution of hot and cold water.

The pump is equipped with transducers suitable for operation and is already programmed at the factory.

Advantages

- Energy saving
- Compact design
- Easy to use
- Programmable to suit the system requirements
- Reliability

Costruction

The system comprises of:

- Pump
- Induction motor
- I-MAT Frequency converter
- Motor adapter for the motor mounting of the frequency converter
- Connection cable between frequency converter and induction motor
- Transducers

Main features

- Rated motor power output from 0,75 kW to 4 kW
- Control range from 1750 to 3450 rpm (2-pole)
- Protection against dry running
- Protection against operations with closed valve ports
- Protection against system leakages
- Protection against overcurrent in the motor
- Protection against overvoltage and undervoltage of the power supply
- Protection against current unbalances between phases

Operating modes



Constant pressure mode
with pressure transducer

In this mode, the system maintains the preset pressure when the flow required by the installation changes.



Proportional pressure mode
with pressure transducer

In this mode the system changes the working pressure according to the required flow rate.



Constant flow mode
with flow meter

In this mode the system maintains a constant flow rate value in a point of the installation according to the required pressure.



Fixed speed mode
with setting of the speed preferential rotation.

In this mode, by changing the working frequency, you may choose any operational curve included within the working range.



Constant temperature mode
with temperature transducer

In this mode the system keeps the temperature constant inside a system by changing the speed of the pump.

泵浦搭載變頻器

MXV-B EI 泵浦規格從0.75kW到4kW，在泵浦上配置**I-MAT**變頻器。

使系統更有效率，應用於供水設備及冷熱水設備。

泵浦已裝有感應器，適用於各項操作，且完成程式設定。



優點

- 節能
- 簡潔設計
- 操作簡單
- 可依系統需求編輯程式
- 可靠

結構

該系統包括：

- 泵浦
- 電動馬達
- I-MAT變頻器
- 馬達固定座(變頻器安裝於馬達使用)
- 連接電纜(於變頻器及馬達之間)
- 壓力傳送器

主要特色

馬達額定輸出功率：0.25kW至11kW

控制範圍：1750至3450 rpm(2極)

控制範圍：870至1750 rpm(4極)

防乾轉保護裝置

防止系統在閘門於關閉情況下操作

防止系統漏水

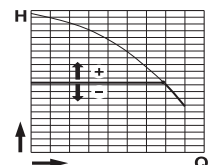
馬達過電流保護裝置

防止欠相保護

操作模式

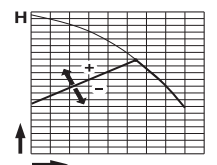
恆壓模式
與壓力感應器

此模式依水量變化來維持壓力設定值。



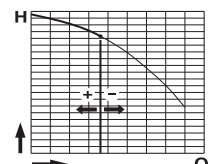
比例壓力模式
與壓力感應器

此模式依據流量來更變系統運轉壓力。



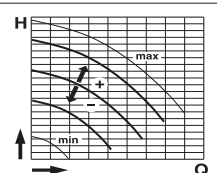
定量模式
與流量計

此模式依據需求壓力來維持流量值。



定速模式
與先取轉速設置

此模式可依工作頻率選擇運作曲線及範圍(等比例運作)。



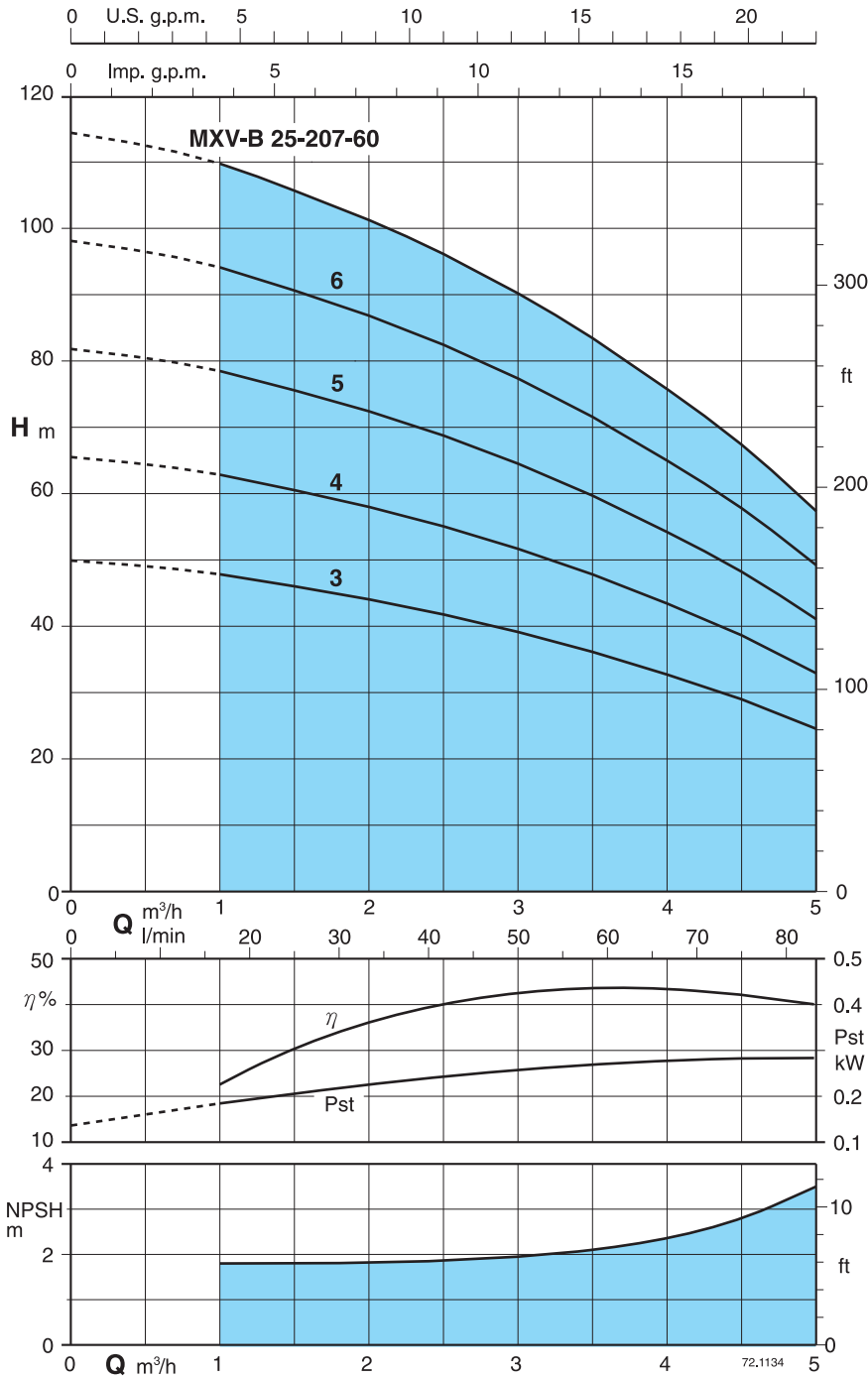
恆溫模式

與溫度感應器

依照泵浦速度變換，維持系統內部溫度。

Characteristic curves - 性能曲線

n ≈ 3450 rpm



Test results with clean cold water, without gas content.
A safety margin of + 0.5 m is recommended for the NPSH value.

Head and power values valid for liquids with density $\rho = 1,0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = \text{max } 20 \text{ mm}^2/\text{sec}$.

Tolerances in accordance with UNI EN ISO 9906:2012.

Pst Power with reference to one stage.
P2 Rated motor power output.

測試結果是以不含氣泡之乾淨冷水測量所得之數據。

NPSH數值的誤差值建議需加上0.5 m。

揚程及馬力需配合流體的密度估算。

$\rho = 1.0 \text{ kg/dm}^3$ ，運動黏性係數。

$\nu = \text{最大值 } 20 \text{ mm}^2/\text{sec}$

誤差值根據UNI EN ISO 9906:2012之標準。

Pst = 一段葉片所產生壓力之參考值。

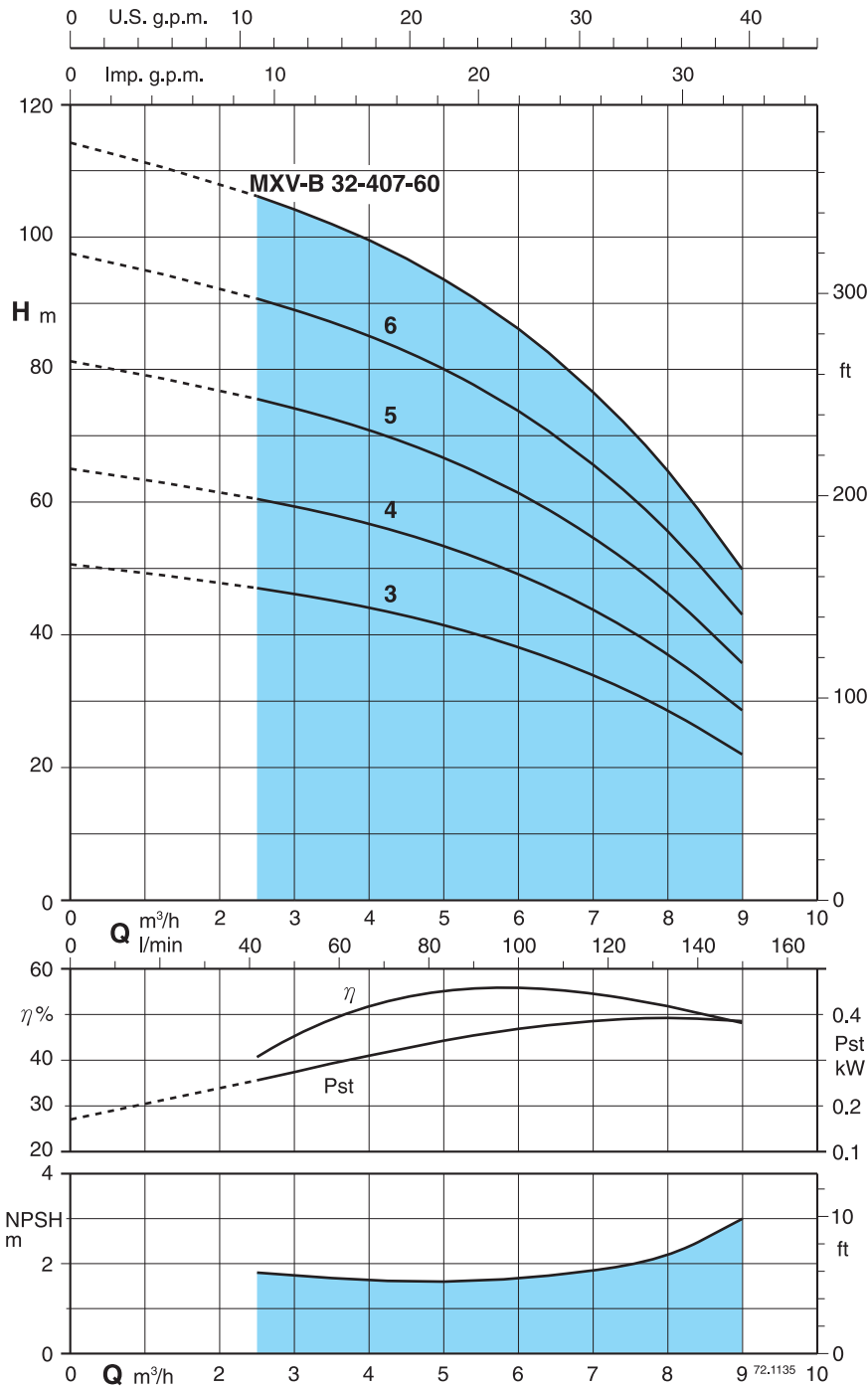
P2 額定輸出功率。

Performance - 性能

3 ~	1 ~	P2		Q m³/h l/min	H m																			
		kW	HP		0	1	1,5	2	2,5	3	3,5	4	4,5	5										
MXV-B 25-203-60	MXV-BM 25-203-60	0,75	1	0	16,6	25	33,3	41,6	50	58,3	66,6	75	83,3											
MXV-B 25-204-60	MXV-BM 25-204-60	1,1	1,5	0	16,6	25	33,3	41,6	50	58,3	66,6	75	83,3	49,9	47,8	46,2	44	41,8	39	35,8	32,1	28,3	24,1	
MXV-B 25-205-60	MXV-BM 25-205-60	1,5	2	0	16,6	25	33,3	41,6	50	58,3	66,6	75	83,3	65	62	60,3	57,8	54,9	51,5	47,6	43,2	38,4	33	
MXV-B 25-206-60/A		2,2	3	0	16,6	25	33,3	41,6	50	58,3	66,6	75	83,3	81,5	78	75,4	72,3	68,6	64,4	59,5	54	48	41	
MXV-B 25-207-60/A		2,2	3	0	16,6	25	33,3	41,6	50	58,3	66,6	75	83,3	98	94	90,5	86,7	82,3	77,2	71,4	64,8	57,6	49	
				72,1134	0	16,6	25	33,3	41,6	50	58,3	66,6	75	83,3	114	110	105,6	101,2	96	90,1	83,3	75,5	67	57

Characteristic curves - 性能曲線

$n \approx 3450$ rpm



Test results with clean cold water, without gas content.
A safety margin of + 0.5 m is recommended for the NPSH value.

Head and power values valid for liquids with density $\rho = 1,0$ kg/dm³ and kinematic viscosity $\nu = \max 20$ mm²/sec.

Tolerances in accordance with UNI EN ISO 9906:2012.

Pst Power with reference to one stage.
P2 Rated motor power output.

測試結果是以不含氣泡之乾淨冷水測量所得之數據。

NPSH數值的誤差值建議需加上0.5 m。

揚程及馬力需配合流體的密度估算。

$\rho = 1.0$ kg/dm³，運動黏性係數。

$\nu = \text{最大值 } 20$ mm²/sec

誤差值根據UNI EN ISO 9906:2012之標準。

Pst = 一段葉片所產生壓力之參考值。

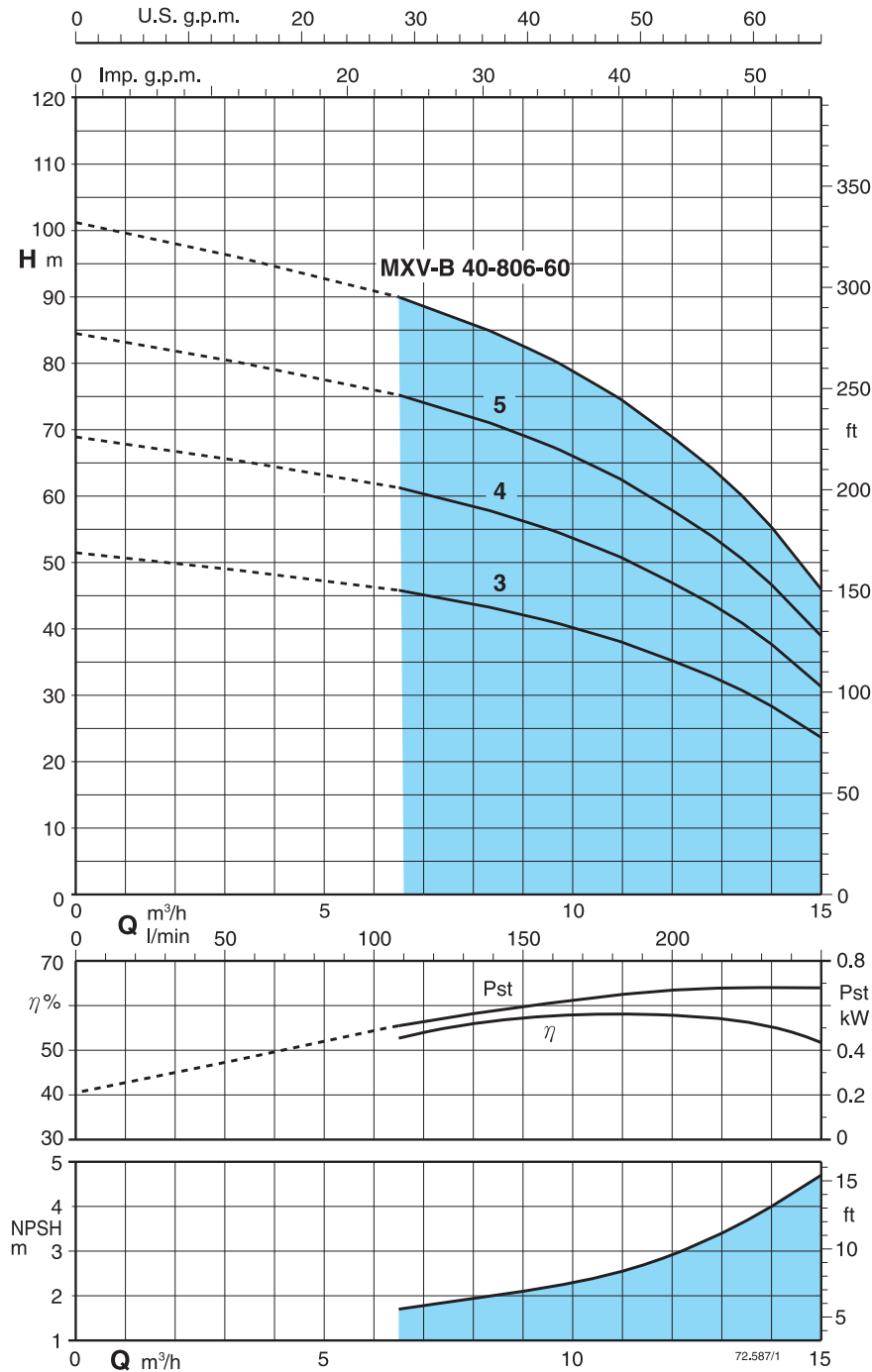
P2 額定輸出功率。

Performance - 性能

3 ~	1 ~	P2		Q m³/h l/min	H m									
		kW	HP		0	2,5	3	3,5	4	5	6	7	8	9
MXV-B 32-403-60	MXV-BM 32-403-60	1,1	1,5	9 ^{72.1135}	50,5	47	46,2	45,2	44	41,5	38	34	28,4	22
MXV-B 32-404-60/A		2,2	3		65	61	60	58,2	56,8	53,4	49,2	43,8	37	29
MXV-B 32-405-60/A		2,2	3		82	76	74,3	72,7	71	66,8	61,5	54,7	46,3	36
MXV-B 32-406-60/A		2,2	3		97	91	89,1	87,3	85,2	80,1	73,8	65,7	55,5	43
MXV-B 32-407-60/A		3	4		114	106	104	102	99,4	93,5	86,1	76,6	64,8	50

Characteristic curves - 性能曲線

n ≈ 3450 rpm



Test results with clean cold water, without gas content.
A safety margin of + 0.5 m is recommended for the NPSH value.

Head and power values valid for liquids with density $\rho = 1,0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = \text{max } 20 \text{ mm}^2/\text{sec}$.

Tolerances in accordance with UNI EN ISO 9906:2012.
Pst Power with reference to one stage.
P2 Rated motor power output.

測試結果是以不含氣泡之乾淨冷水測量所得之數據。
NPSH數值的誤差值建議需加上0.5 m。

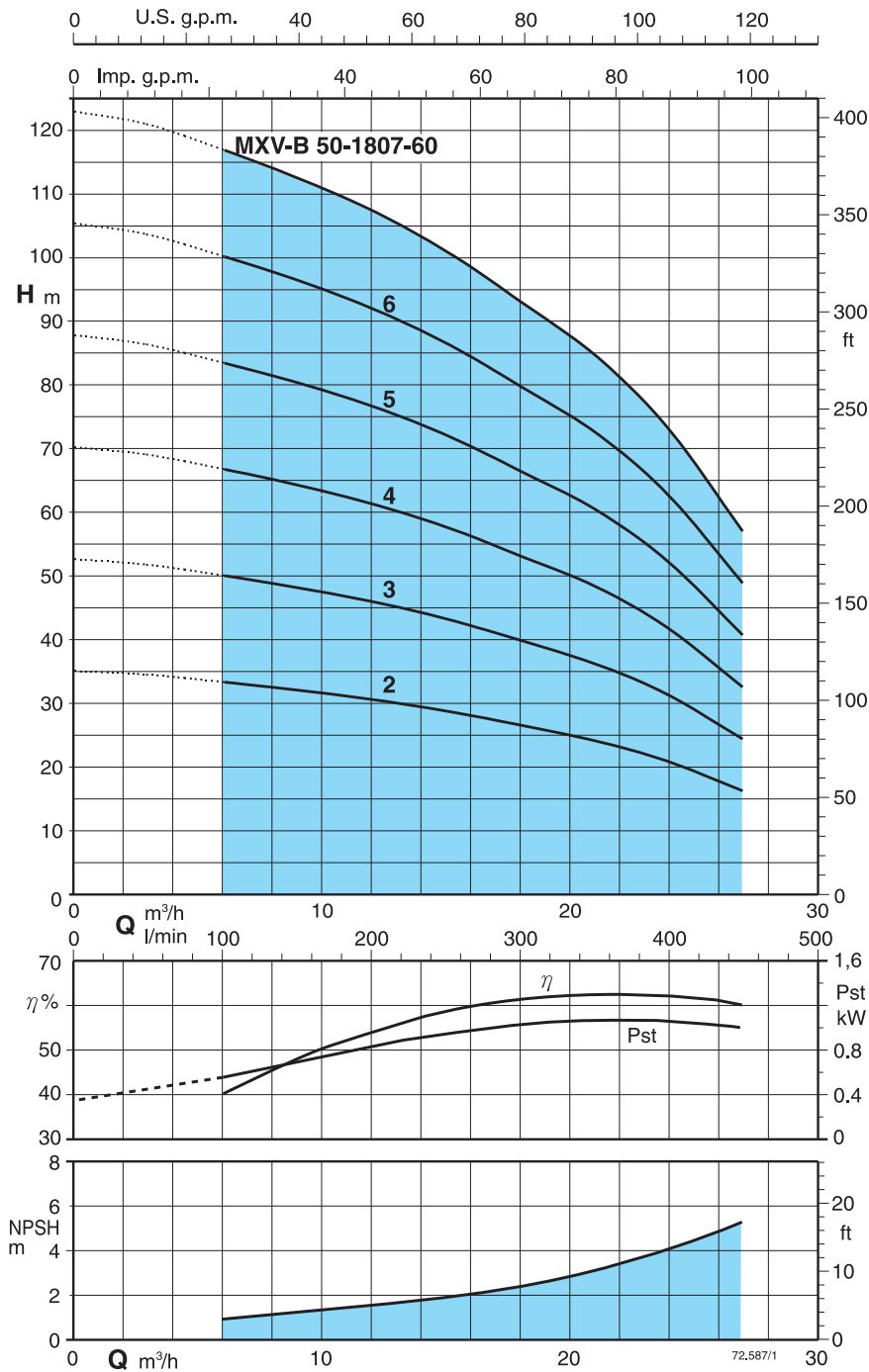
揚程及馬力需配合流體的密度估算。
 $\rho = 1,0 \text{ kg/dm}^3$ ，運動黏性係數。
 $\nu = \text{最大值 } 20 \text{ mm}^2/\text{sec}$
誤差值根據UNI EN ISO 9906:2012之標準。
Pst = 一段葉片所產生壓力之參考值。
P2 額定輸出功率。

Performance - 性能

3 ~	P2		Q m³/h l/min	0	6,5	8	9	10	11	12	13	14	15
	kW	HP		H m									
MXV-B 40-803-60/A	1,8	2,5		51,8	46,5	44,2	42,4	40,8	38,3	35,5	32	28	23
MXV-B 40-804-60/A	2,2	3		69	62	59	56,5	54,4	51	47,3	42,6	37,3	30,6
MXV-B 40-805-60/A	3	4		84	75	72,5	70	67	63,5	60	55,5	50	43
MXV-B 40-806-60/A	4	5,5		101	90	87	84	80	76,5	72	66,5	60	51,5

Characteristic curves - 性能曲線

n ≈ 3450 rpm



Test results with clean cold water, without gas content.
 A safety margin of + 0.5 m is recommended for the NPSH value.

Head and power values valid for liquids with density $\rho = 1,0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = \text{max } 20 \text{ mm}^2/\text{sec}$.

Tolerances in accordance with UNI EN ISO 9906:2012.

Pst Power with reference to one stage.
 P2 Rated motor power output.

測試結果是以不含氣泡之乾淨冷水測量所得之數據。
 NPSH數值的誤差值建議需加上0.5 m。

揚程及馬力需配合流體的密度估算。
 $\rho = 1,0 \text{ kg/dm}^3$ ，運動黏性係數。
 $\nu = \text{最大值 } 20 \text{ mm}^2/\text{sec}$
 誤差值根據UNI EN ISO 9906:2012之標準。
 Pst = 一段葉片所產生壓力之參考值。
 P2 額定輸出功率。

Performance - 性能

3 ~	P2		Q	H m										
	kW	HP		0	6	9	12	15	18	21	24	27		
			l/min	0	100	150	200	250	300	350	400	450		
MXV-B 50-1802-60/A	2,2	3		35	33	31,8	30,2	28,3	26	23,5	20	15,8		
MXV-B 50-1803-60/A	3	4		52,5	49,5	47,7	45,3	42,5	39	35,2	30	23,7		
MXV-B 50-1804-60/A	4	5,5		70	66	63,6	60,4	56,6	52	47	40	31,6		
MXV-B 50-1805-60/A	5,5	7,5		87,5	82,5	79,5	75,5	70,7	65	58,7	50	39,5		
MXV-B 50-1806-60/A	5,5	7,5		105	99	95,4	90,6	84,9	78	70,5	60	47,4		
MXV-B 50-1807-60/A	7,5	10		123	116	113	106	99	91	82,2	70	55,3		

Rated currents - 額定電流

P ₂		single-phase - monofásico			IA/IN
kW	HP	220V IN A	127V IN A	110V IN A	
0,75	1	6,5	11,3	13	2,9
1,1	1,5	8,5	14,7	17	3
1,5	2	10,6	18,4	-	3,8

P₂ Rated motor power output.
馬達額定輸出功率

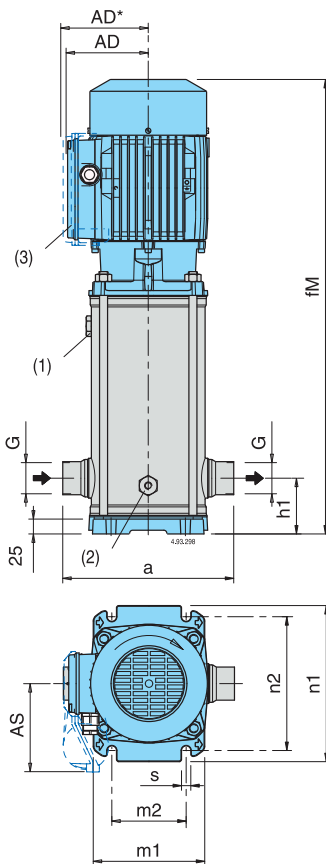
IA/IN D.O.L. starting current / Rated current
啟動電流 / 額定電流

P ₂		three-phase - trifásico			IA/IN
kW	HP	220/380V IN A	380/660V IN A	220/440V IN A	
0,75	1	4,5/2,6	-	4,7/2,7	5,2
1,1	1,5	5,7/3,3	-	6,0/3,5	5,5
1,5	2	9/5,2	-	9,4/5,5	5,4
1,8	2,5	9/5,2	-	9,4/5,5	5,4
2,2	3	11,2/6,4	-	11,6/6,7	7,3
3	4	13,4/7,7	-	14,0/8,1	8,4
4	5,5		11,2/6,5		7,8
5,5	7,5		13,7/7,9		8,7
7,5	10		17/9,8		9,2

Dimensions and weights - 尺寸與重量

	AD*	AS mm			
		220V	127V	110V	110/220V
MXV-BM 25-203-60	133	●	116	131	□
MXV-BM 25-204-60	133	●	131	131	□
MXV-BM 25-205-60	133	●	131	□	□
MXV-BM 32-403-60	133	●	131	131	□

● Standard dimensions - 標準尺寸
□ Cannot constructed - 無法製造提供

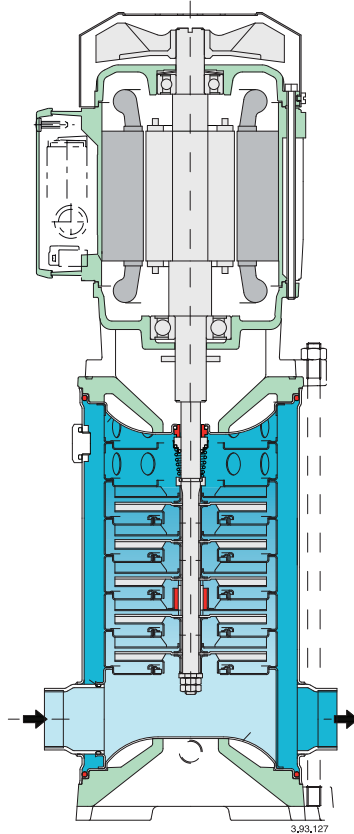


Pump 型號	Motor P ₂		G ISO 228	a	mm								MXV-B kg	MXV-BM kg
	kW	HP			h1	fM	AD	n1	n2	m1	m2	s		
MXV-B(M) 25-203-60	0,75	1	G 1	215	75	564	128	210	180	150	100	12,5	23,5	24,5
MXV-B(M) 25-204-60	1,1	1,5	G 1	215	75	564	128	210	180	150	100	12,5	24,5	25,5
MXV-B(M) 25-205-60	1,5	2	G 1	215	75	588	128	210	180	150	100	12,5	27,5	28,5
MXV-B 25-206-60/A	2,2	3	G 1	215	75	652	128	210	180	150	100	12,5	32	
MXV-B 25-207-60/A	2,2	3	G 1	215	75	676	128	210	180	150	100	12,5	33	
MXV-B(M) 32-403-60	1,1	1,5	G 1 1/4	215	75	564	128	210	180	150	100	12,5	24,5	25,5
MXV-B 32-404-60/A	2,2	3	G 1 1/4	215	75	604	128	210	180	150	100	12,5	31	
MXV-B 32-405-60/A	2,2	3	G 1 1/4	215	75	628	128	210	180	150	100	12,5	32	
MXV-B 32-406-60/A	2,2	3	G 1 1/4	215	75	652	128	210	180	150	100	12,5	33	
MXV-B 32-407-60/A	3	4	G 1 1/4	215	75	699	138	210	180	150	100	12,5	43	
MXV-B 40-803-60/A	1,8	2,5	G 1 1/2	225	80	633	128	246	215	190	130	14	32	
MXV-B 40-804-60/A	2,2	3	G 1 1/2	225	80	633	128	246	215	190	130	14	34,5	
MXV-B 40-805-60/A	3	4	G 1 1/2	225	80	686	138	246	215	190	130	14	44	
MXV-B 40-806-60/A	4	5,5	G 1 1/2	225	80	716	138	246	215	190	130	14	47,5	
MXV-B 50-1802-60/A	2,2	3	G 2	250	90	640	128	246	215	190	130	14	33,6	
MXV-B 50-1803-60/A	3	4	G 2	250	90	668	138	246	215	190	130	14	43	
MXV-B 50-1804-60/A	4	5,5	G 2	250	90	706	138	246	215	190	130	14	44	
MXV-B 50-1805-60/A	5,5	7,5	G 2	250	90	771	160	246	215	190	130	14	56	
MXV-B 50-1806-60/A	5,5	7,5	G 2	250	90	808	160	246	215	190	130	14	63,5	
MXV-B 50-1807-60/A	7,5	10	G 2	250	90	846	160	246	215	190	130	14	64	

- (1) Filling
- (2) Draining
- (3) Standard position of terminal box
(for other positions rotate motor through 90° or 180°)

- (1) 注水
- (2) 排水
- (3) 接線盒標準位置
(若有其他位置需求，將馬達旋轉90或180度)

Features - 特色



Wider Range of Application

All parts that come into contact with the liquid, including wet-end covers, are in chrome-nickel stainless steel. With corrosion-resistant seal rings and guide ring.

Low Cost Installation

Vertical construction with reduced pump height for installation in small spaces. In-line connections to simplify the piping layout with the possibility of inserting the pump in straight pipe-lines. Disassembly, inspection or cleaning of internal parts without removal of piping.

Robust and Reliable

The suction and discharge nozzles arranged in-line absorb the forces of the piping on the pump without the creation of distorting loads causing local friction and early wears. The lantern brackets compact and robust design maintains a sure alignment between rotating and fixed parts, reducing vibration. The upper cover design prevents entrapment of air around the mechanical seal.

Low-Noise Operation

The water filled shroud around the stages and thick external walls, work together for low-noise operation.

應用廣泛

所有與液體接觸之零件，皆為不銹鋼材質。泵浦使用耐腐蝕性軸封環及引導線。

安裝成本低

泵浦高度減少之立式結構，可節省安裝所需的空間。直立式配管方式安裝方便，可將泵浦直接安裝在直線管路上。無須拆除管路，即可拆卸、檢查或清潔內部零件。

堅固可靠

吸水與排水口在同一條直線上，可吸收泵浦管路的力，以降低出入口因變形而產生的摩擦與提早磨損的風險。托架簡潔堅固的設計，讓轉動及固定零件得以精準對齊，減少震動的產生。頂盤的設計，可避免空氣殘留在機械軸封周圍。

低噪音

當液體充滿整個泵浦，加上外殼厚實的構造，可降低泵浦運轉產生的噪音。