JMI - Simavis

Vertical Multistage Centrifugal In-line Pump

With IE2/IE3 Motor

JVM, JVMI, JVMN

1, 3, 5, 10, 15, 20, 32, 45, 64, 90, 120, 150 Series

www.jmisimavis.com

Vertical Multistage Centrifugal in-line Pump

JVM

JVMI

JVMN

Feature

In-line design /High Efficiency
Reliability/Easy Maintenance/
Wide Range

Application

Irrigation and agriculture
Water supply / Light industry
Pressure boosting / Water treatment
Heating, ventilation / air-conditioning

The JVM, JVMI and JVMN pumps are non-self priming vertical multistage pump of in-line design, flange or with Victaulic coupling with equally sized suction and discharge ports. Stage construction with stainless steel impellers, chambers and pressure casing. Pump stub shaft and motor shaft of the IEC-standards motor are directly close coupled. All pumps are equipped with a cartridge type mechanical seal for easy maintenance.

Product Data

JVM / JVMI / JVMN												
Range	1	3	5	10	15	20	32	45	64	90	120	150
50Hz												
Nominal flow (m^3/h)	1	3	5	10	15	20	32	45	64	90	120	150
Flow range (m^3/h)	0.7-2.4	1.2-4.5	2.5-8.5	5-13	8.5-23.5	10.5-29	15-40	22-58	30-85	45-120	60-160	75-180
Max. pressure (bar)	21.5	23	24	21.5	23	24.3	27.5	33	21.8	20	20.4	18.7
Fluid temperature (˚C)	-15~+120											
Motor power (kw)	0.37-2.2	0.37-3	0.37-5.5	0.37-7.5	1.1-15	1.1-18.5	1.5-30	3-45	4-45	5.5-45	11-75	11-75
Motor												
Mains connection 1 phase (V/Hz)	220-240 V 50Hz											
Mains connection 3 phase (V/Hz)	0.37-7.5 kw 220-240/380-415 V 50Hz From 11kw 380-415 V 50 Hz											
Insulation class	F											
Enclosure class	IP 55											
Ambient temperature	Max. +50 ˚C											
JVM / JVMI / JVMN Pipe Connection												
Flange	DN 25/ DN 32	DN 25/ DN 32	DN 25/ DN 32	DN 40	DN 50	DN 50	DN 65	DN 80	DN 100	DN 100	DN 125	DN 125
Mechanical Seals	SIC/SIC											
Seals	EPDM:Standard Viton:Optional											

>Flange standards : Refer to dimensional drawings

Mechanical Seals

Standard Cartridge type mechanical seal made of Silicon Carbide/ Silicon Carbide/EPDM or Viton. Based on the type of application, alternative materials are available for the seal and the elastomers. The cartridge type mechanical seal can be replaced in minutes without special tools and without dismantling the pump.

Type of Seal

Seal Type	JVM	JVMI	JVMN
Mechanical Seals			
S:Cartridge seal	•	•	•
QQ	•	•	•
UU	Optional	Optional	Optional
QB	Optional	Optional	Optional
UB	Optional	Optional	Optional
Seals			
E	•	•	•
V	Optional	Optional	Optional

List of Materials			
Q:	Silicon carbide	E:	EPDM
U:	Tungsten carbide	V:	Viton
B:	Carbon		

Maximum operating and inlet pressures

JVM / JVMI / JVMN 50 Hz

Series	Stages	Maximum Operating Pressures	Stages	Maximum Inlet Pressures
1	2-36	25bar	2-36	10bar
3	2-36	25bar	2-29	10bar
			31-36	15bar
5	2-36	25bar	2-16	10bar
			18-36	15bar
10	1-16	16bar	1-6	8bar
	17-22	25bar	7-22	10bar
15	1-10	16bar	1-3	8bar
	12-17	25bar	4-17	10bar
20	1-10	16bar	1-3	8bar
	12-17	25bar	4-17	10bar
32	(1-1)-7	16bar	(1-1)-4	4bar
	(8-2)-14	30bar	(5-2)-10	10bar
			(11-2)-14	15bar
45	(1-1)-5	16bar	(1-1)-2	4bar
	(6-2)-11	30bar	(3-2)-5	10bar
	(12-2)-(13-2)	33bar	(6-2)-(13-2)	15bar
64	(1-1)-5	16bar	(1-1)-(2-2)	4bar
	(6-2)-(8-1)	30bar	(2-1)-(4-2)	10bar
			(4-1)-(8-1)	15bar
90	(1-1)-4	16bar	(1-1)-1	4bar
	(5-2)-6	30bar	(2-1)-(3-2)	10bar
			3-6	15bar
120	1-3	25bar	1-2	4bar
	(4-1)-7	40bar	3-7	10bar
150	(1-1)-(2-1)	25bar	(1-1)-(2-1)	4bar
	(3-2)-6	40bar	(3-2)-6	10bar

Rule to follow: The inlet pressure + the pressure against a closed valve < Max. Operating pressure.

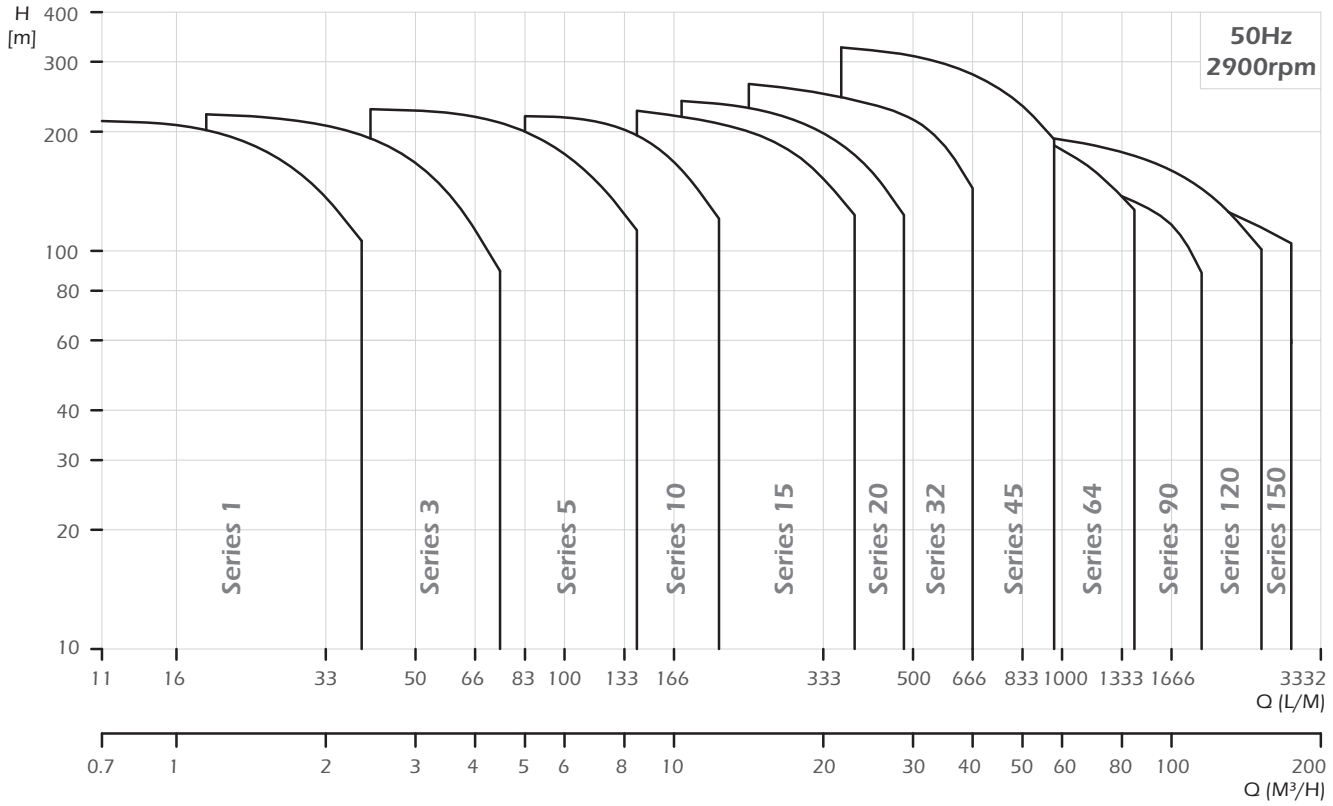
Motor Data

Squirrel cage in short circuit, aluminum casing up to 22 kw, totally enclosed, fan-cooled, 2-pole standard motor.

Standard Motor : IE2 (Other motor IE3 or Explosion Proof are available upon requested)
Enclosure Class : IP 55
Insulation Class : F (class H is available upon requested)
Standard Voltages : 0.37-7.5 kw 3x220-240/380-415V, 50Hz
11kw 3x380-415 V, 50Hz
Ambient Temperature : Max. +50˚C

Motor Type				Nominal Current in [A]				
HP	KW	Pole	Flange	Frame	3PH-220V	3PH-240V	3PH-380V	3PH-415V
0.5	0.37	2	B14	71	1.7	2	1.1	1.3
0.75	0.55	2	B14	71	2.5	2.8	1.5	1.7
1.0	0.75	2	B14	80	3.5	3.9	2.1	2.3
1.5	1.1	2	B14	90S	4.4	4.7	2.7	2.9
2.0	1.5	2	B14	90L	5.9	5.7	3.4	3.3
3.0	2.2	2	B14	90L	8.5	8	4.9	4.6
4.0	3.0	2	B14	100L	11.4	11.4	6.6	6.6
5.5	4.0	2	B14	112M	15.4	16.3	8.9	9.4
7.5	5.5	2	B5	132S	20.8	20.8	12	12
10	7.5	2	B5	132M	27.4	26.7	15.8	15.4
15	11	2	B5	160M			21.2	20
20	15	2	B5	160M			27.7	25.5
25	18.5	2	B5	160L			35.2	32.4
30	22	2	B5	180M			41.3	38.2
40	30	2	B5	200L			54.2	50.4
50	37	2	B5	200L			70.8	65.6
60	45	2	B5	225M			83.1	79.2
75	55	2	B5	250M			102.5	96.2
90	75	2	B5	250M			135.4	128.4

JVM / JVMI / JVMN Performance Range



Pumped Liquids

JVM/I/N pumps can handle a wide variety of liquids, each with its own characteristic.

JVM/I
Non-corrosive liquids
For fluid transfer, circulation and pressure boosting of cold or hot clean water.

JVMN
Industrial liquids
Light acids

The fluids covered in the list are not complete. Data on the application limits of different pump materials when handling any of the listed fluids are considered to be the best choices. However, the table is intended as a general guide only, and cannot replace actual esting of the pumped fluids and pump materials under specific
working conditions.
When choosing the pump version, sufficient attention should be given to the flow medium, such as density, solidification point, viscosity as well as ex-protection requirement. The limits of applicability of the pumps, based on pressure and temperature must also be considered.

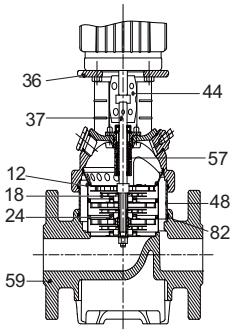
Recommended		JVM/I		JVMN	
Pumped fluid	"Fluid Concentration, temperature"	EPDM	Viton	EPDM	Viton
Acetic acid anhydride	25°C			●	
Alkaline cleaner		●			
Aluminium sulphate	10%,25°C				●
Ammonia water (A. hydroxide)	20%,40°C	●			
Ammonia hydrogen carbonate	10%,40°C	●		●	
Benzoic acid	10%,90°C				●
Boric acid	Unsaturated solution,60°C				●
Butanol	60°C	●			
Calcium acetate	30%,50°C	●			
Calcium hydroxide	Saturated solution,50°C	●			
Chromic acid	1%,20°C				●
Condensate	90°C	●			
Copper sulphate	Unsaturated solution,60°C				●
Deionic (fully desalinated water)	50°C			●	
Ethanol	100%,20°C	●			
Ehylene glycol/Diethylene glycol	40%,70°C	●	●	●	●
Fixer	25°C				●
Formic acid	5%,20°C			●	

Technical Data

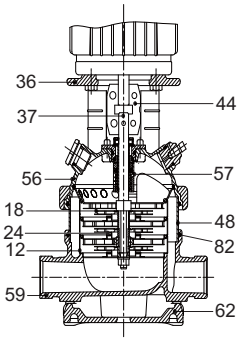
Recommended		JVM/I		JVMN	
Pumped fluid	"Fluid Concentration, temperature"	EPDM	Viton	EPDM	Viton
Fruit juice	50°C				●
Glycerine	50%, 50°C	●			
Heating oil (Light)		●			●
Hydraulic oil	100%, 100°C		●		
Isopropanol		●			
Lactic acid	10%, 20°C				●
Linoleic acid	100%, 20°C	●			
Linseed oil	60°C		●		
Liqueur	60°C				●
Maize oil	80°C		●		
Maleic acid	50%, 50°C				●
Methanol	100%, 20°C	●			
Motor oil	100%, 80°C	●			
Oil-water-mixture	100°C		●		
Oxalic acid	1%, 20°C			●	
Peanut oil	100%, 80°C		●		
Phosphoric acid	20%, 20°C			●	
Polyglycols	90°C		●		●
Polyethylene glycols	40%, 70°C	●			
Potassium carbonate	10%, 60°C	●			
Potassium hydrogen carbonate	10%, 60°C	●			
potassium permanganate	5%, 20°C			●	
Potassium sulphate	Unsaturaed solution, 80°C			●	
Rapeseed oil	100%, 80°C		●		
Silicone oil	100%		●		
Sodium carbonate	10%, 60°C			●	
Sodium hydroxide	25%, 50°C			●	
Sodium nitrate	Unsaturated solution, 80°C			●	
Sodium phosphate	5%, 100°C			●	
Sodium sulphate	10%, 60°C			●	
Sulphuric acid	5%, 25°C				●
Water					
Swimming pool water	35°C	●		●	
Deionic	50°C			●	
Distilled water	50°C			●	
Decarbonate water				●	
Soft water				●	
Heating water				●	
Boiler water				●	
Pure water				●	
Rinsing water		●		●	

Construction

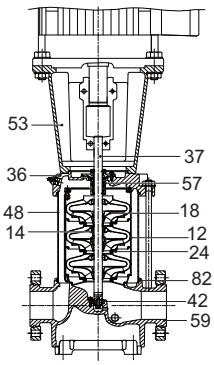
JVM-1, 3, 5,10,15,20 Series



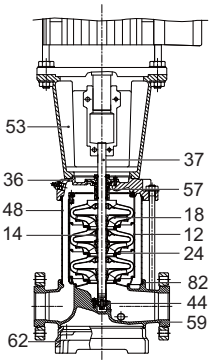
JVMI/N-1,3,5,10,15,20 Series



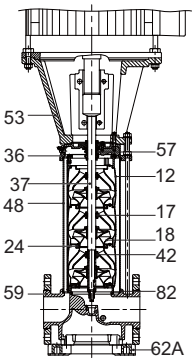
JVM-32,45,64,90 Series



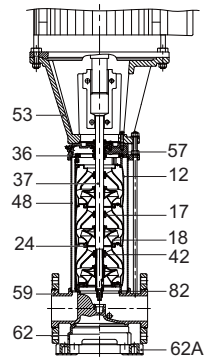
JVMI/N-32,45,64,90 Series



JVM-120,150 Series



JVMI/N-120,150 Series



Pos.	Name	Material	JVM-1,3,5,10,15,20		JVMI-1,3,5,10,15,20		JVMN-1,3,5,10,15,20	
			Standard		Standard		Standard	
			Europe	USA	Europe	USA	Europe	USA
36	Pump head	Cast Iron	EN-GJL-200	ASTM 25B	EN-GJS-450-10	ASTM 65-45-12	EN-GJS-450-10	ASTM 65-45-12
56	Pump head cover	Stainless steel	N/A	N/A	1.4301	AISI 304	1.4401	AISI 316
18	Impeller	Stainless steel	1.4301	AISI 304	1.4301	AISI 304	1.4401	AISI 316
37	Shaft	Stainless steel	1.4057	AISI 431	1.4057	AISI 431	1.4401	AISI 316
48	Outer Sleeve	Stainless steel	1.4301	AISI 304	1.4301	AISI 304	1.4401	AISI 316
82	O-ring (for outer sleeve)	EPDM						
12	Chamber	Stainless steel	1.4301	AISI 304	1.4301	AISI 304	1.4401	AISI 316
24	Neck ring	PTFE						
59	Base	Cast Iron	EN-GJL-200	ASTM 25B	N/A	N/A	N/A	N/A
	Base	Stainless steel	N/A	N/A	1.4301	AISI 304	1.4401	AISI 316
62	Base plate	Cast Iron	N/A	N/A	EN-GJL-200	ASTM 25B	EN-GJL-200	ASTM 25B
44	Coupling	Fe-Cu-C	SINT C11	MPIF FC0525	SINT C11	MPIF FC0525	SINT C11	MPIF FC0525
57	Mechanical seal	Cartridge type						

Pos.	Name	Material	JVM-32,45,64,90		JVMI-32,45,64,90		JVMN-32,45,64,90	
			Standard		Standard		Standard	
			Europe	USA	Europe	USA	Europe	USA
36	Pump head	Cast iron	EN-GJL-250	ASTM 35B				AISI 316
		Stainless steel			1.4301	AISI 304	1.4401	ASTM 35B
53	Motor bracket	Cast iron	EN-GJL-250	ASTM 35B	EN-GJL-250	ASTM 35B	EN-GJL-250	AISI 316
18	Impeller	Stainless steel	1.4301	AISI 304	1.4301	AISI 304	1.4401	AISI 316
37	Shaft	Stainless steel	1.4057	AISI 431	1.4057	AISI 431	1.4401	AISI 316
48	Outer sleeve	Stainless steel	1.4301	AISI 304	1.4301	AISI 304	1.4401	
82	O-ring (for outer sleeve)	EPDM						AISI 316
12	Chamber	Stainless steel	1.4301	AISI 304	1.4301	AISI 304	1.4401	
24	Neck ring	Carbon Fiber+POB+PTFE						N/A
59	Base	Cast iron	EN-GJL-250	ASTM 35B	N/A	N/A	N/A	AISI 316
	Base	Stainless steel	N/A	N/A	1.4301	AISI 304	1.4401	ASTM 35B
62	Base plate	Cast iron	N/A	N/A	EN-GJL-250	ASTM 35B	EN-GJL-250	
57	Mechanical seal	Cartridge type						
14	Bearing ring		Bronze		Bronze		POB+Graphite+PTFE	
42	Bearing ring (bottom)	Tungsten carbide						

Pos.	Name	Material	JVM-120,150		JVMI-120,150		JVMN-120,150	
			Standard		Standard		Standard	
			Europe	USA	Europe	USA	Europe	USA
36	Pump head	Cast iron	EN-GJL-250	ASTM 35B	N/A	N/A	N/A	N/A
		Stainless steel	N/A	N/A	1.4301	AISI 304	1.4401	AISI 316
53	Motor bracket (15~60HP)	Cast iron	EN-GJL-250	ASTM 35B	EN-GJL-250	ASTM 35B	EN-GJL-250	ASTM 35B
	Motor bracket (75~100HP)	Cast iron	EN-GJS-450-10	ASTM 65-45-12	EN-GJS-450-10	ASTM 65-45-12	EN-GJS-450-10	ASTM 65-45-12
17	Bearing	PTEF						
18	Impeller	Stainless steel	1.4301	AISI 304	1.4301	AISI 304	1.4401	AISI 316
37	Shaft	Stainless steel	1.4057	AISI 431	1.4057	AISI 431	1.4401	AISI 316
48	Outer sleeve	Stainless steel	1.4301	AISI 304	1.4301	AISI 304	1.4401	AISI 316
82	O-ring for outer sleeve	EPDM						
12	Chamber	Stainless steel	1.4301	AISI 304	1.4301	AISI 304	1.4401	AISI 316
24	Neck ring	PTFE						
59	Base	Cast iron	EN-GJL-250	ASTM 35B	N/A	N/A	N/A	N/A
	Base	Stainless steel	N/A	N/A	1.4301	AISI 304	1.4401	AISI 316
62	Base plate	Cast iron	N/A	N/A	EN-GJL-450-10	ASTM 65-45-12	EN-GJL-450-10	ASTM 65-45-12
62A	Base plate	Cast iron	EN-GJL-450-10	ASTM 65-45-12	EN-GJL-450-10	ASTM 65-45-12	EN-GJL-450-10	ASTM 65-45-12
57	Mechanical seal	Cartridge type						
42	Bearing ring (bottom)	SIC/SIC						

Vertical Multistage Centrifugal In-line Pump

JVM, JVMI, JVMN 1, 3, 5, 10, 15, 20, 32, 45, 64, 90,120, 150 Series

Single Phase Operation

Application : School, Office Building, Hospital, Mosque, Budget Hotel & Factory

Standard VSD Constant Pressure System, Transfer System & Hydropneumatic System

Application : All Building & High Rise Tower

Standard VSD Constant Pressure System

Transfer System

Hydropneumatic System

JMI - Simavis