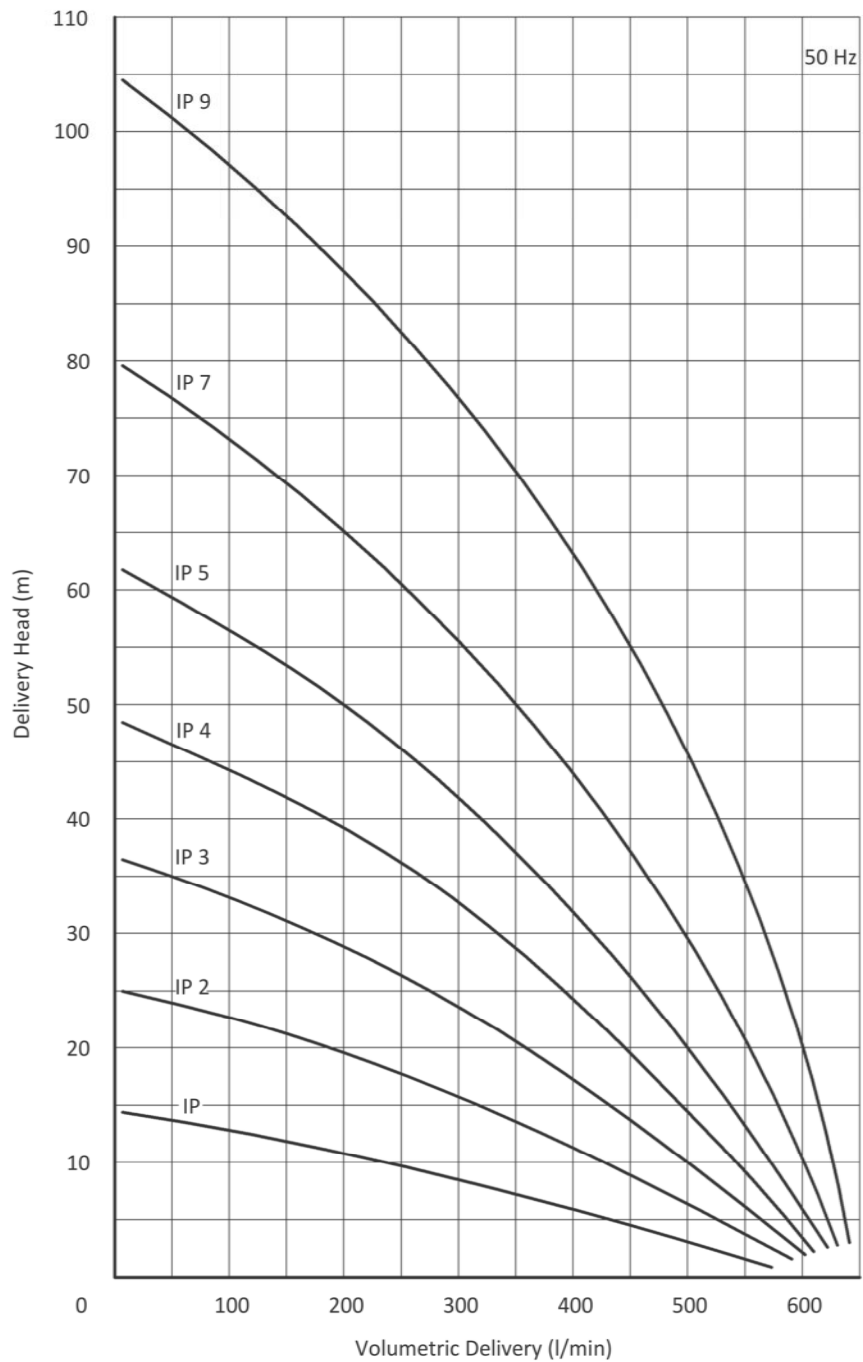




IP PUMP

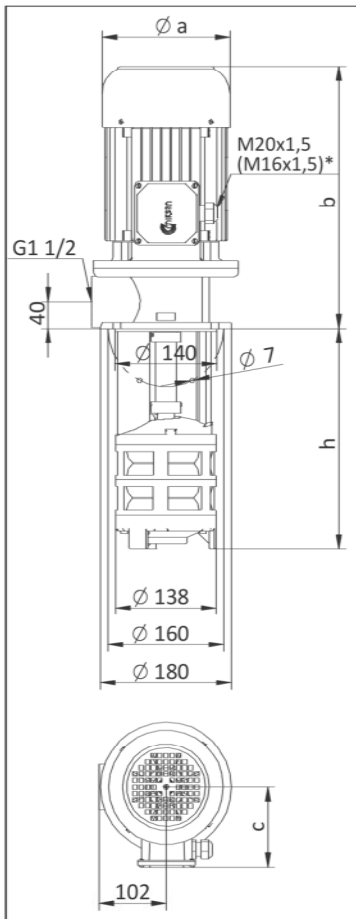
Performance Curve



Applications:

- Machine tools especially on grinding operations,
- Cutting, turning, milling, boring applications,
- Filtration systems,
- Circulation systems. IP Pumps are used for pumping of cutting / cooling fluids.

DIMENSIONS & NOMINAL VALUES



TYPE	Depth of immersion h (mm)	mm			Weight kg	Power kW	Voltage V(Δ/Y)	Frequency Hz	Rated current A	Speed rpm
		a	b	c						
IP/210	210	157	319	118	24.0	1.1	230/400	50	4.16/2.4	2890
IP/280	280				25.5					
IP/360	360				26.5					
IP/450	450				28.0					
IP/560	560				30.0					
IP-2/210	210	176	363	139	34.0	2.2	230/400	50	7.79/4.5	2905
IP-2/270	270				34.5					
IP-2/340	340				35.5					
IP-2/420	420				36.5					
IP-2/510	510				38.0					
IP-2/620	620				40.0					
IP-3/270	270	194	398	150	46.5	4.0	230/400	50	13.68/7.9	2900
IP-3/330	330				47.0					
IP-3/400	400				48.0					
IP-3/480	480				49.5					
IP-3/570	570				51.0					
IP-3/680	680				53.0					
IP-4/330	330	218	412	163	54.0	5.5	230/400	50	17.15/9.9	2900
IP-4/390	390				54.5					
IP-4/460	460				55.5					
IP-4/540	540				57.0					
IP-4/630	630				58.5					
IP-4/740	740				60.5					
IP-5/390	390	218	412	163	57.5	5.5	230/400	50	17.15/9.9	2900
IP-5/450	450				58.0					
IP-5/520	520				59.0					
IP-5/600	600				60.5					
IP-5/690	690				62.0					
IP-7/510	510	258	495	177	88.5	7.5	400Δ	50	14.0	2930
IP-7/570	570				89.0					
IP-7/640	640				90.0					
IP-7/720	720				91.5					
IP-7/810	810				93.0					
IP-9/630	630	258	495	177	105.0	11.0	400Δ	50	19.7	2930
IP-9/690	690				105.5					
IP-9/760	760				106.5					

* M16x1,5 cable gland is used on IP 1 pump.

** The performance curves are based on 1 mm²/s (cSt) kinematic viscosity values and 997 kg/m³ density

*** Curve tolerance according to ISO 9906:2012 Grade 3B.

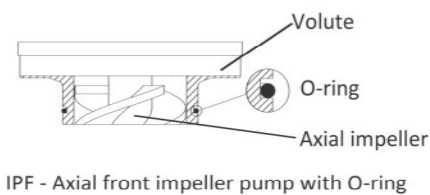
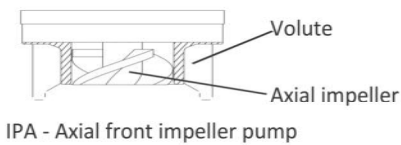
Fluid Specifications:

- Coolants,
- Cutting oils,
- Grinding oils,
- Water,
- Chip contains liquids (max. 8mm)
- Fluid temperature 0...80 °C
- Kinematic viscosity 1...90 mm²/s

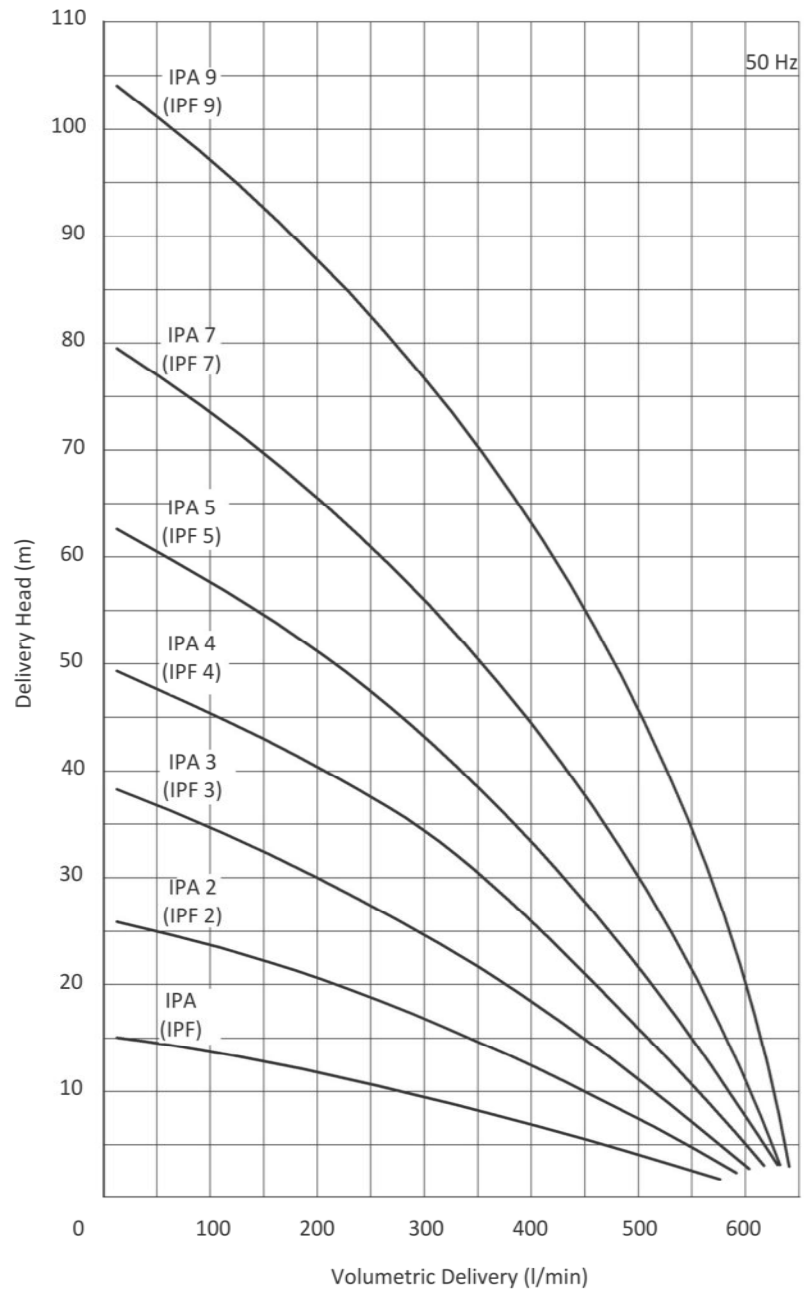
Materials:

- Pump body : Cast iron - DIN GG 25
- Volute : Cast iron - DIN GG 25
- Impeller : Investment casting steel - AISI 4140 (DIN 42CrMo4)
- Pump shaft : Engineering steel - AISI 1040 (DIN C35)
- Electric motor : 3 phase induction motor IE3 - 2 pole
Protection degree IP 55

IPA/IPF PUMP



Performance Curve



IPA PUMP

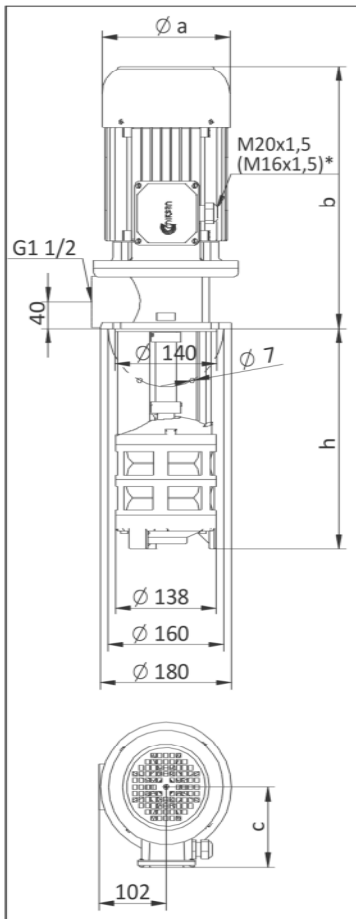
Applications:

- IPA pump has an additional axial impeller,
- It is used for pumping the liquid foam resulting from high-speed machining operations,
- Pumping metal chips together with the fluid by mixing,
- Filtration systems,
- Hot liquid applications,
- IPA Pumps are used for pumping of cutting / cooling fluids in circulation systems.

Fluid Specifications:

- Coolants,
- Cutting oils,
- Grinding oils,
- Water,
- Fluid temperature 0...80 °C
- Kinematic viscosity 1...90 mm²/s

DIMENSIONS & NOMINAL VALUES



TYPE	Depth of immersion h (mm)	a b c			Weight kg	Power kW	Voltage V(Δ/Y)	Frequency Hz	Rated current A	Speed rpm
		mm	mm	mm						
IPA(F) /210	210	157	319	118	24.5	1.1	230/400	50	4.16/2.4	2890
IPA(F) /280	280				26.0					
IPA(F) /360	360				27.0					
IPA(F) /450	450				28.5					
IPA(F) /560	560				30.5					
IPA(F) -2/210	210	176	363	139	34.5	2.2	230/400	50	7.79/4.5	2905
IPA(F) -2/270	270				35.0					
IPA(F) -2/340	340				36.0					
IPA(F) -2/420	420				37.0					
IPA(F) -2/510	510				38.5					
IPA(F) 2/620	620				40.5					
IPA(F) -3/270	270	194	398	150	47.0	4.0	230/400	50	13.68/7.9	2900
IPA(F) -3/330	330				47.5					
IPA(F) -3/400	400				48.5					
IPA(F) -3/480	480				50.0					
IPA(F) -3/570	570				51.5					
IPA(F) -3/680	680				53.5					
IPA(F) -4/330	330	218	412	163	54.5	5.5	230/400	50	17.15/9.9	2900
IPA(F) -4/390	390				55.0					
IPA(F) -4/460	460				56.0					
IPA(F) -4/540	540				57.5					
IPA(F) -4/630	630				59.0					
IPA(F) -4/740	740				61.0					
IPA(F) -5/390	390	218	412	163	58.0	5.5	230/400	50	17.15/9.9	2900
IPA(F) -5/450	450				58.5					
IPA(F) -5/520	520				59.5					
IPA(F) -5/600	600				61.0					
IPA(F) -5/690	690				62.5					
IPA(F) -7/510	510	258	495	177	89.0	7.5	400Δ	50	14.0	2930
IPA(F) -7/570	570				89.5					
IPA(F) -7/640	640				90.5					
IPA(F) -7/720	720				92.0					
IPA(F) -7/810	810				93.5					
IPA(F) -9/630	630	258	495	177	105.5	11.0	400Δ	50	19.7	2930
IPA(F) -9/690	690				106.0					
IPA(F) -9/760	760				107.0					

* M16x1,5 cable gland is used on IPA(F) 1 pump.

** The performance curves are based on 1 mm²/s (cSt) kinematic viscosity values and 997 kg/m³ density

*** Curve tolerance according to ISO 9906:2012 Grade 3B.

IPF PUMP

Applications:

- IPF pumps are used for pumping of liquid from vacuum zone on filtration systems. The pump works at vacuum zone, therefore it has an O-ring at the pump inlet. It also has an additional axial front impeller.

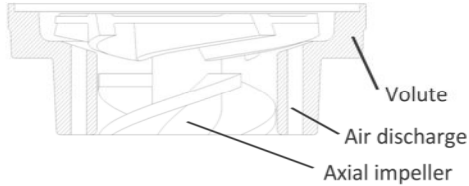
Fluid Specifications:

- Coolants,
- Cutting oils,
- Grinding oils,
- Water,
- Fluid temperature 0...80 °C
- Kinematic viscosity 1...90 mm²/s

Materials:

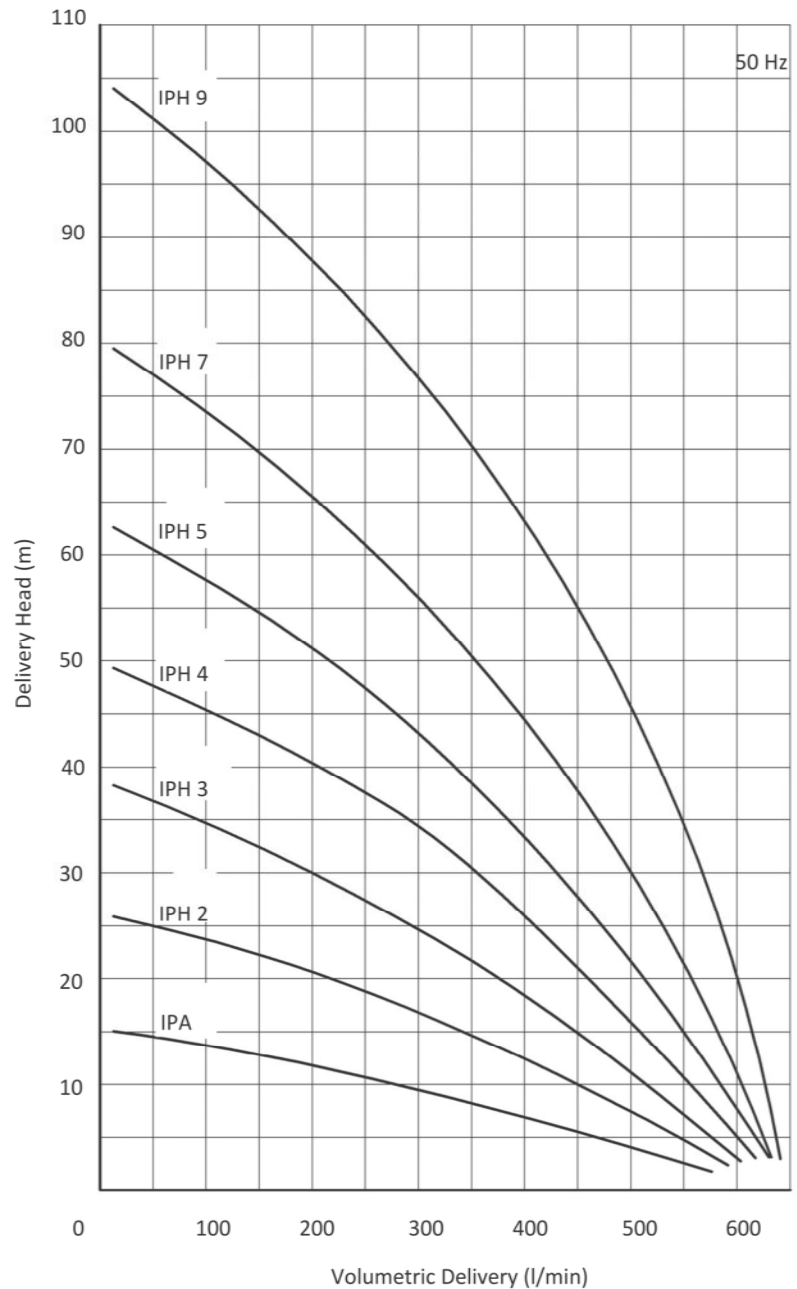
Pump body	: Cast iron - DIN GG 25
Volute	: Cast iron - DIN GG 25
Impeller	: Investment casting steel - AISI 4140 (DIN 42CrMo4)
Axial (front) impeller	: Investment casting steel - AISI 4140 (DIN 42CrMo4)
O-ring	: Viton
Pump shaft	: Engineering steel - AISI 1040 (DIN C35)
Electric motor	: 3 phase induction motor IE3 - 2 pole Protection degree IP 54

IPH PUMP



IPH - Axial front impeller with air release

Performance Curve



IPH PUMP

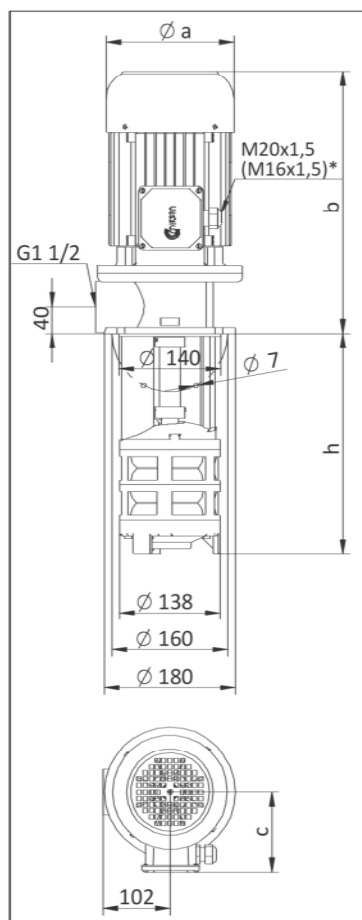
Applications:

- IPH pump has an additional axial impeller,
- It is used for pumping the liquid foam resulting from high-speed machining operations,
- Pumping metal chips together with the fluid by mixing,
- Filtration systems,
- Hot liquid applications,
- IPH Pumps are used for pumping of cutting / cooling fluids in circulation systems.

Fluid Specifications:

- Coolants,
- Cutting oils,
- Grinding oils,
- Water,
- Fluid temperature 0...80 °C
- Kinematic viscosity 1...90 mm²/s

DIMENSIONS & NOMINAL VALUES



TYPE	Depth of immersion h (mm)	mm			Weight kg	Power kW	Voltage V(Δ/Y)	Frequency Hz	Rated current A	Speed rpm
		a	b	c						
IPH /210	210	157	319	118	24.5	1.1	230/400	50	4.16/2.4	2890
IPH /280	280				26.0					
IPH /360	360				27.0					
IPH /450	450				28.5					
IPH /560	560				30.5					
IPH -2/210	210	176	363	139	34.5	2.2	230/400	50	7.79/4.5	2905
IPH -2/270	270				35.0					
IPH -2/340	340				36.0					
IPH -2/420	420				37.0					
IPH -2/510	510				38.5					
IPH 2/620	620				40.5					
IPH -3/270	270	194	398	150	47.0	4.0	230/400	50	13.68/7.9	2900
IPH -3/330	330				47.5					
IPH -3/400	400				48.5					
IPH -3/480	480				50.0					
IPH -3/570	570				51.5					
IPH -3/680	680				53.5					
IPH -4/330	330	218	412	163	54.5	5.5	230/400	50	17.15/9.9	2900
IPH -4/390	390				55.0					
IPH -4/460	460				56.0					
IPH -4/540	540				57.5					
IPH -4/630	630				59.0					
IPH -4/740	740				61.0					
IPH -5/390	390	218	412	163	58.0	5.5	230/400	50	17.15/9.9	2900
IPH -5/450	450				58.5					
IPH -5/520	520				59.5					
IPH -5/600	600				61.0					
IPH -5/690	690				62.5					
IPH -7/510	510	258	495	177	89.0	7.5	400Δ	50	14.0	2930
IPH -7/570	570				89.5					
IPH -7/640	640				90.5					
IPH -7/720	720				92.0					
IPH -7/810	810				93.5					
IPH -9/630	630	258	495	177	105.5	11.0	400Δ	50	19.7	2930
IPH -9/690	690				106.0					
IPH -9/760	760				107.0					

* M16x1,5 cable gland is used on IPH 1 pump.

** The performance curves are based on 1 mm²/s (cSt) kinematic viscosity values and 997 kg/m³ density

*** Curve tolerance according to ISO 9906:2012 Grade 3B.

Materials:

Pump body	: Cast iron - DIN GG 25
Volute	: Cast iron - DIN GG 25
Impeller	: Investment casting steel - AISI 4140 (DIN 42CrMo4)
Axial (front) impeller	: Investment casting steel - AISI 4140 (DIN 42CrMo4)
O-ring	: Viton
Pump shaft	: Engineering steel - AISI 1040 (DIN C35)
Electric motor	: 3 phase induction motor IE3 - 2 pole Protection degree IP 54