



HYGIENIC CENTRIFUGAL AND SELF-PRIMING PUMPS

3A - EHEDG STANDARDS



SERIES CSA - ASH

CERTIFICATE OF COMPLIANCE

EHEDG

TYPE 01 - CLASS 1

TUM Certification
benefits describe the product

Centrifugal pump with CSA and EPDM or PTFE gaskets material used
- 3A, EHEDG standard

Name
CSFR S.p.A. - 13027, Moncalvo, Italy

You have evaluated the compliance with the
Hygiene Standards (Type 01) of the EHEDG, by
TUW 11101 Requirements for the design of centrifugal pumps for pharmaceutical, brewery
and more critical systems in stainless steel

Evaluation Report No. 07274 (1/2011) Date: 28 November 2011

Signed: *[Signature]* Date: 28 November 2011

By: *[Signature]* Evaluation Officer

In the presence of: *[Signature]* Date: 28 November 2011

TUM INSTITUT FÜR
ANWANDUNGSORIENTIERTE
TECHNIK

3A/3B Pumping, Hydration, Laundry
Manufacturing

ISSUE DATE: June 27, 1997 CERTIFICATE AUTHORIZATION NUMBER: 759

3

THIS IS TO CERTIFY THAT

CSFR S.p.A. Italy
Strada per Bibbione 7, 42027 Moncalvo, Italy

is hereby authorized to operate to apply the
3-A Symbol to the results of operations, continuous 3-A Sanitary Standards for:

Number 02-11
02-11 (Centrifugal and Positive Rotary Pumps)

on both sides

CSFR Models: Centrifugal pumps: CHV, CHS, and CHS, with type 10 mechanical seal, CSA, all sizes, with
type 7, 10 or 12 mechanical seals, CSAG, all sizes, with type 10 mechanical seal, APS, all sizes, with
type 10 mechanical seal.

Type: Self-priming: TSE, TSD with dual ball bearing mechanical seals

VALID THROUGH: December 31, 2017

Issued by: **Frank R. Rugh**
Executive Director
3-A Sanitary Standards, Inc.

The issuance of this authorization for the use of the 3-A Symbol is based upon the voluntary certification, by the applicant for 3-A, that its equipment meets above mentioned 3-A Sanitary Standards Requirements. Legal responsibility for compliance is solely that of the holder of this Certificate of Authorization, and 3-A Sanitary Standards, Inc. does not warrant that the holder of an authorization is fully complying with the provisions of the said 3-A Sanitary Standards. This is in no way to be taken as the responsibility of 3-A Sanitary Standards, Inc. in the appropriate action to take upon in which a holder of an authorization has been notified.

NEXT 3-A SUBJECT TO REPORT 2010: Reevaluation 2014



C.S.F. INOX SPA

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Hygienic Centrifugal pumps



CSA Series

CSA series pumps are designed, tested and approved to EHEDG (European Hygienic Engineering & Design Group) hygiene protocols and to US 3A standards. Used mainly in the foodstuffs and pharmaceutical industries, they fulfil the highest sanitary requirements.

The modular construction enables CSF to provide the most suitable pump. Optimised performance and low NPSH requirements are integral to the design of CSA Series pumps.

Standard design

Open impeller.

Wetted parts in CF-3M 1.4404 / AISI 316L stainless steel, investment cast and electro-chemically polished.

Special internal finish to 0,5 micron Ra.

Adjustable stainless steel feet.

Flow rates up to 300 m³/h, heads up to 100 m (10 bar); low NPSH requirements.



Sanitary Self-Priming Pumps



ASH series

ASH Series pumps are approved to the latest US 3A sanitary standards; ideal for systems where compliance to the most strict hygiene regulations is essential.

The ability of ASH pumps to repeatedly create a vacuum makes them ideal for applications where air or gas is entrained in the pumped liquid. Perfect for CIP scavenge and duties where the inlet pipework is only partially filled with fluid, including foaming products.

Manufactured for a wide range of requirements in the food, beverage and pharmaceutical process sector. This market leading design includes the latest technologies and construction materials.

Standard design

Wetted parts in CF-3M 1.4404 / AISI 316L stainless steel.

Investment cast and electro-chemically polished.

Special internal finish 0,8 micron Ra.

Adjustable stainless steel feet.

Flow rates up to 40 m³/h, heads up max. 35 m (3,5 bar) (50 Hz).



SANITARY CENTRIFUGAL PUMPS SERIES CSA



INDEPENDENT SUPPORT

Sturdy and modular support to be integrated in the various solutions.



SEPARATE MOTOR

For a self-sufficient choice in compliance with the following standards:

- IEC 34 - 1
- VDE 0530T1
- NF C51 - 111
- BS 5000 PART. 99
- NEMA MG1 PART. 1



CASING COVER

Achieved from solid, machined and polished according to hygienical regulations with roughness of 0,5 micron.

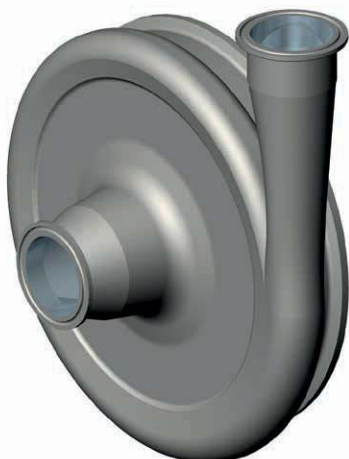


IMPELLER

With incorporated bush for a better rigidity and cleaning.

Manufactured with perfect shapes, thickness and materials and balanced thanks to the investment casting procedure.

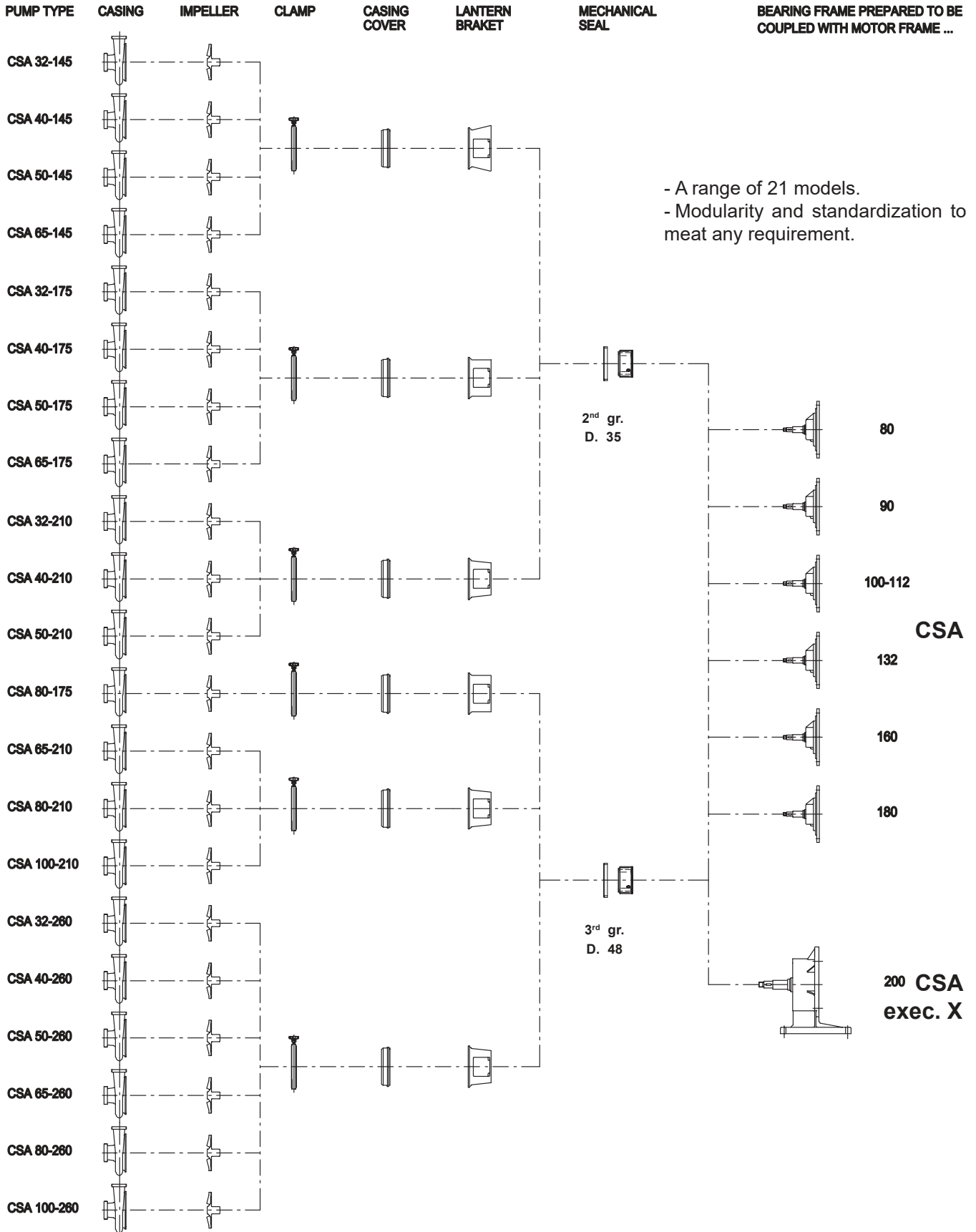
Manual and electrochemical polishing for specular surfaces and low roughness values.



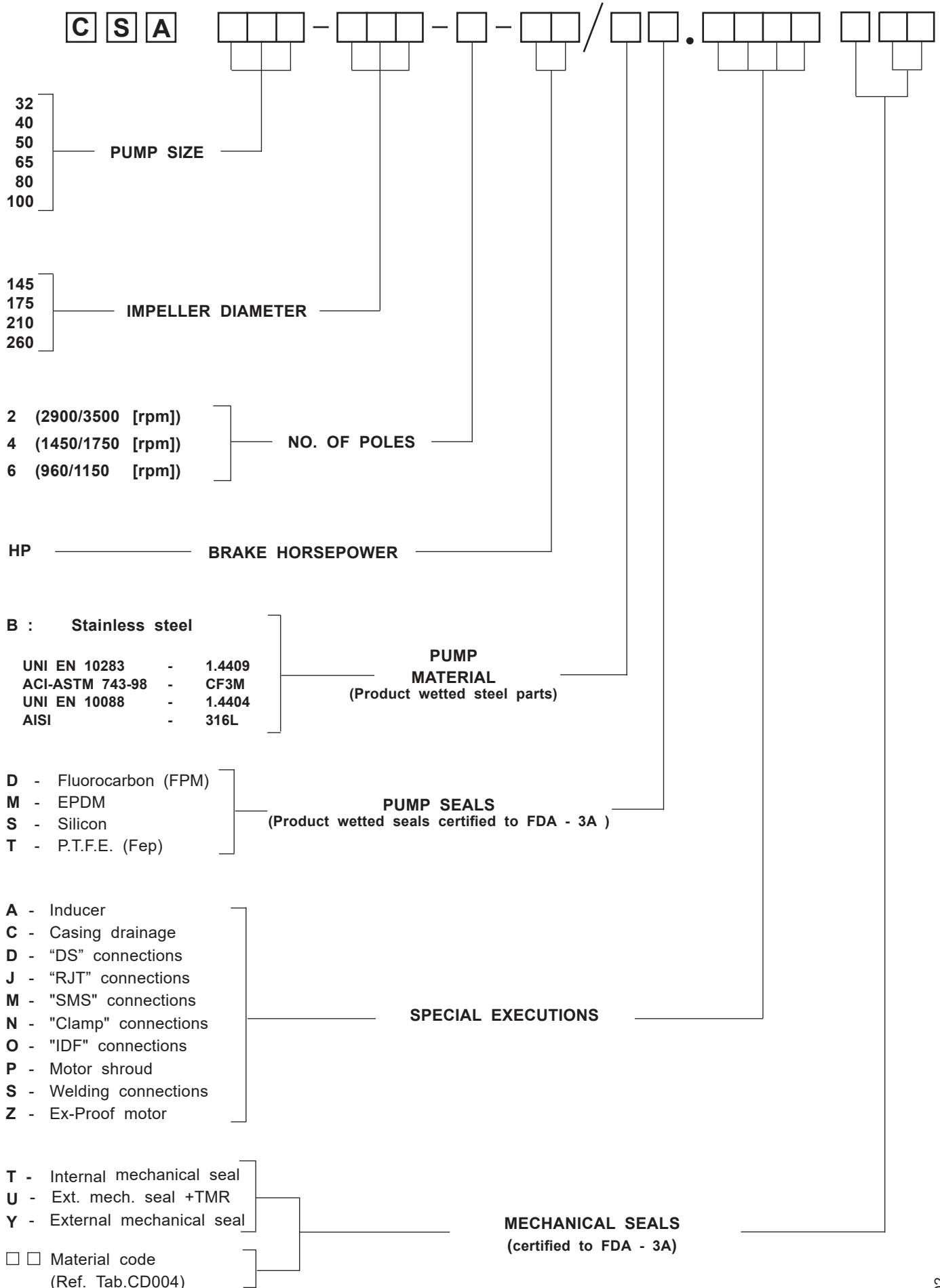
CASING

Volute casing with circular cross section. Perfect development of the shapes ensured by the investment casting procedure. Internal finishing suitable with cover and impeller.

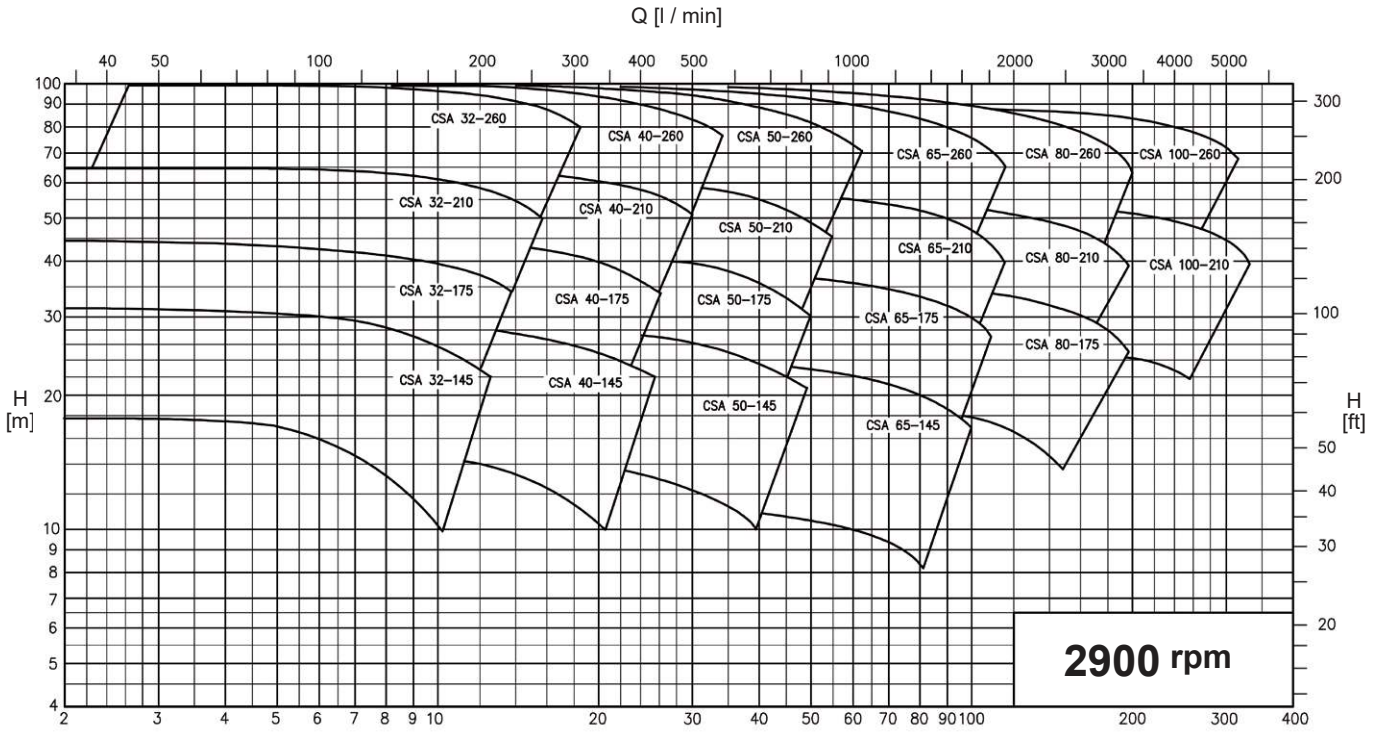
CSA SERIES



PUMP CODES GUIDE



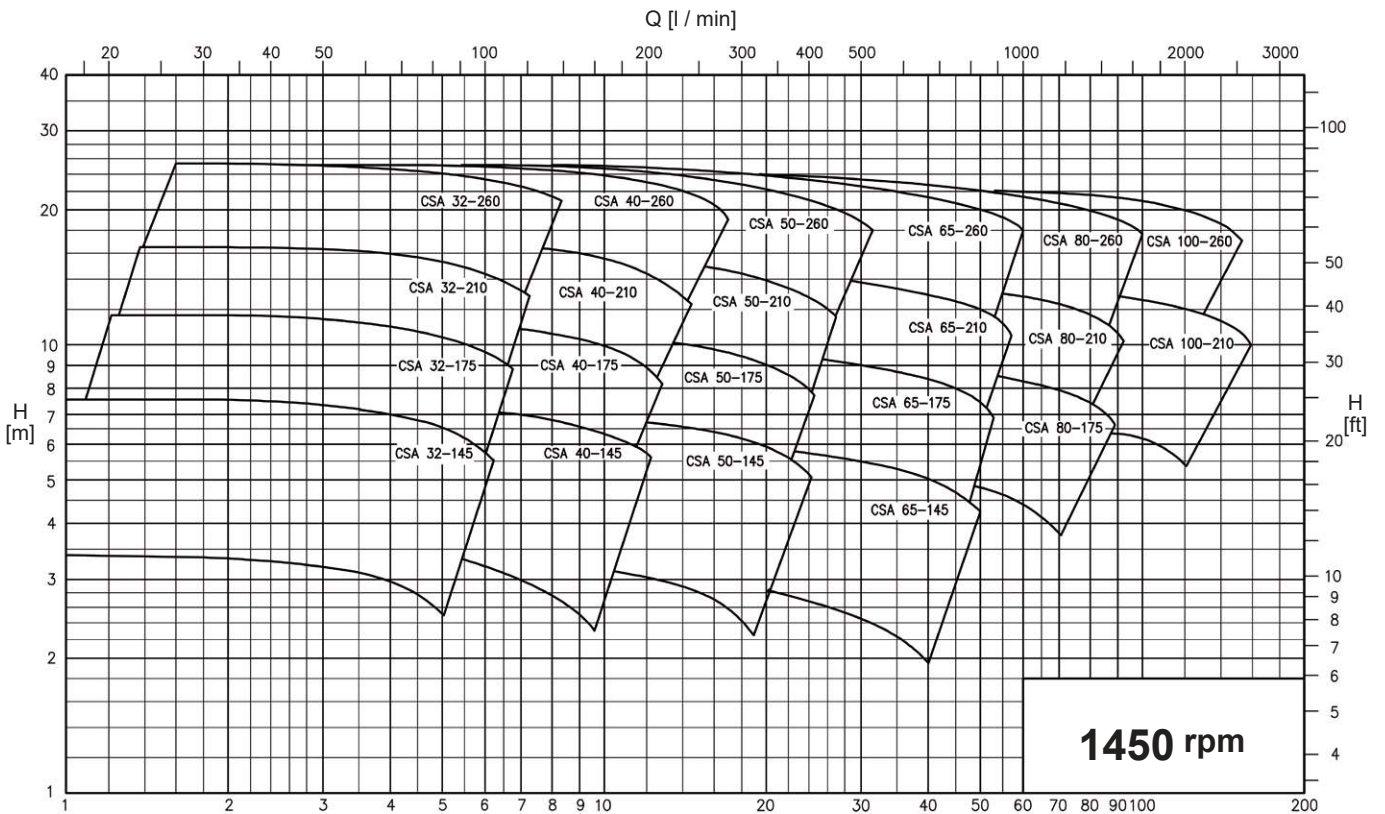
GENERAL DIAGRAM CSA



Performance applies to H₂O at 20 °C (68 °F), 1013 millibar

Q [m³ / h]

Data not binding.



Performance applies to H₂O at 20 °C (68 °F), 1013 millibar

Q [m³ / h]

Data not binding.

AS REGARDS PERFORMANCE CURVES SEE CS CATALOGUE

Closed coupled sanitary centrifugal pumps with open impeller and independent shaft support.
 Greased lubricated bearings.
 Clamp design casing and seal. Easy disassembly, quick inspection, cleaning and maintenance. Rotation of the delivery port for optimised installation.



Elastomers (certified to FDA - 3A - USP VI):

- EPDM
- FLUOROCARBON - (FPM)
- P.T.F.E. (FEP)

Connections:

- CLAMP DIN 32676-C
- DIN 11864



MECHANICAL SEALS

CSA pumps has mechanical seal designed according to the 3A and EHEDG standards.

The seal components are available in a wide range of materials to be selected according the product to pump, the temperature and the working performance.

MATERIAL CODES

METALS

- X - Stainless steel
AISI 316L
- L - Hastelloy (Ni alloy)

CARBONS

- V - normal carbon
- Z - special carbon

RESINS

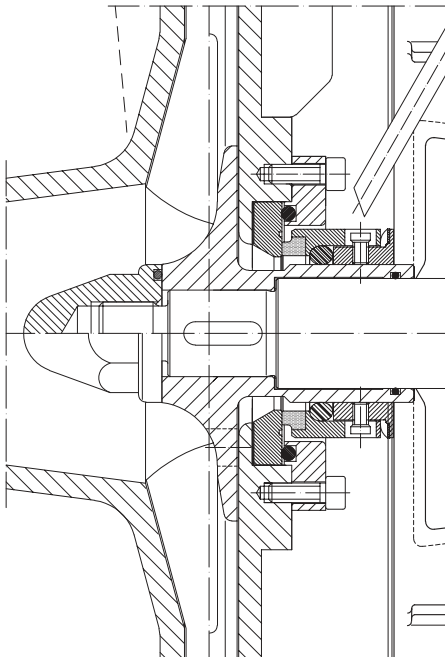
- 5 - normal PTFE
- 4 - loaded PTFE
- F - O-Ring FEP

METAL CARBONS

- 3 - Hard metal welded on stainless steel (TUC)
- R - Anti-corrosion hard metal (TUC)
- K - Integral silicate carbon (SIC)

ELASTOMERS

- 6 - Nitrile (NBR)
- 7 - Ethylene propylene (EPDM)
- W - FPM for high T
- Y - Fluorocarbon (FPM)
- B - Silicone
- Q - Chemraz
- U - Kalrez



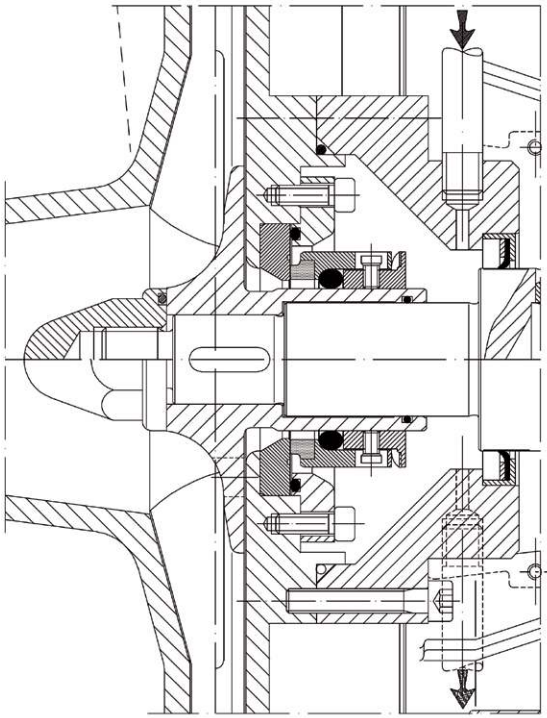
EXECUTION Y

EXTERNAL MECHANICAL SEAL "Y"

Special external mechanical seal execution specifically designed for autolubrication and optimization of cleaning and sterilization.

External flushing for cooling





EXEC. U

EXTERNAL MECHANICAL SEAL + TMR FLUSHED

Double mechanical seal with circulation of the cleaning and cooling liquid.

It is used with products that tend to crystallise, to glue, to harden, to be abrasive, to reach high temperatures and whenever the seal life is limited.

The function of the fluxing is to clean, lubricate and cool the seal; the circulating liquid must be clean.

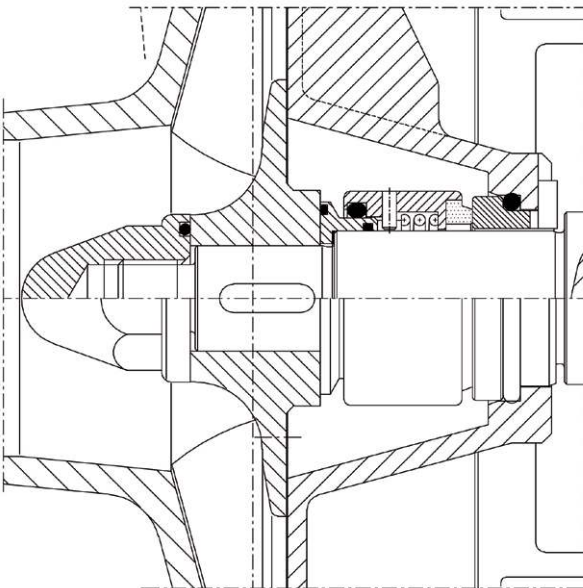
If the seal is leaking the fluxing liquid will point out this fault.



INTERNAL MECHANICAL SEAL

EXECUTION H

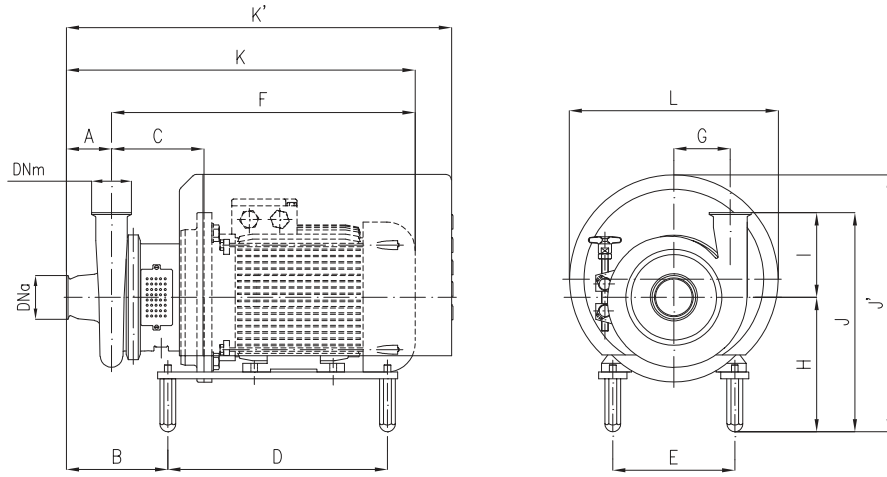
It contemplates the assembly of a mechanical seal dipped in the product, placed behind the impeller in a conic chamber with appropriate lubrication conditions.



Protected and balanced execution. It is suitable for viscous and dirty products, for vacuum applications or those subject to differences in pressure. It is easily cleaned and therefore ideal for sanitary and pharmaceutical applications etc.



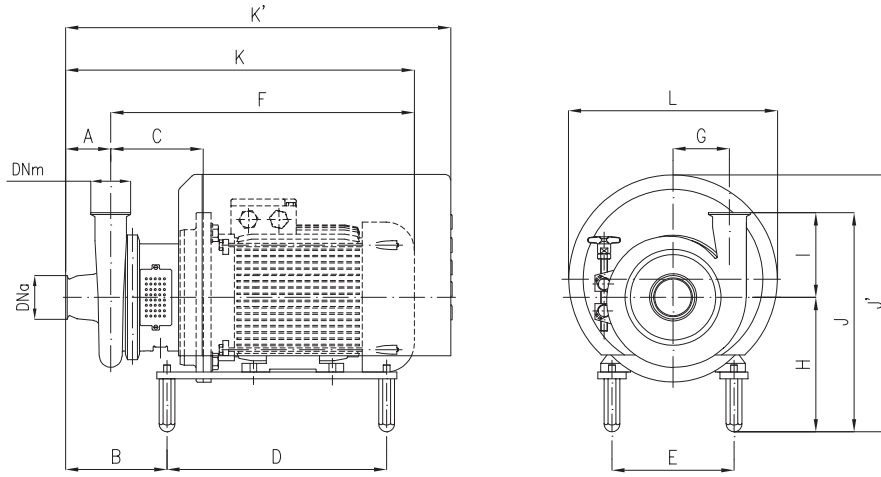
CSA OVERALL DIMENSIONS



Dimensions not binding - DN = "Clamp" DIN 32676-C connections, with standard IEC/EN motors

Pumps	IEC motors size:	DNa	DNm	A	B	C	D	E	F	G	H	K	K'	I	J	J'	L			
CSA 32-145	80	1 1/2"	1 1/2"	80	166	138	254	125	372	85	220	452	566	148	368	384	298			
	90				172			140	419		230	499			378	394				
	100				158	139	314	160	451		240	531	637		388	445	330			
	112							165	190		473	230			553	378		435		
CSA 32-175	80	1 1/2"	1 1/2"	80	167	139	254	125	373	95	220	453	567	148	368	384	298			
	90				173			140	420		230	500			378	394				
	100				159	140	314	160	452		240	532	637		388	445	330			
	112							166	190		473	230			553	378		435		
CSA 32-210	80	1 1/2"	1 1/2"	80	167	139	254	125	373	110	230	453	567	168	398	402	298			
	90				173			140	420		240	532			398	445				
	100				159	140	314	160	452		230	553	637		408	445	330			
	112							166	190		473	230			553	398		435		
	132 M-S				177	161	389	216	578		255	614	680		423	477	370			
	132 MB							241	206		460	254	684		280	764	935	448	543	430
160																				
CSA 32-260	90	2"	1 1/2"	90	207	163	254	140	444	140	260	534	601	168	428	465	330			
	100				193	164	314	160	476			566	671					448	543	430
	112							190	497			587	714							
	132 M-S				211	185	389	216	558			648	714					448	543	430
	132 MB							270	225			460	254							
	160																			
CSA 40-145	80	2"	2"	80	167	139	254	125	373	90	220	453	567	133	353	384	298			
	90				173			140	420		230	501			363	394				
	100				159	140	314	160	452		240	532	637		373	445	330			
	112							166	190		473	230			553	363		435		
CSA 40-175	80	2"	2"	80	168	141	254	125	375	95	220	455	569	150	370	384	298			
	90				175			140	422		230	502			380	394				
	100				161	142	314	160	454		240	534	639		390	445	330			
	112							168	190		475	230			555	380		435		
	132 M-S				180	164	389	216	537		255	617	682		405	477	370			
	132 MB							243	208		460	254	686		280	766	937	430	543	430
160																				
CSA 40-210	80	2"	2"	80	168	141	254	125	375	115	235	455	569	160	395	399	298			
	90				175			140	422		240	534			400	445				
	100				161	142	314	160	454		235	555	639		395	440	330			
	112							168	190		475	250			617	682		410	472	370
	132 M-S				180	164	389	216	537		255	661	737		440	543	430			
	132 MB							243	208		460	254	686		280	766	937	440	543	430
160																				
CSA 40-260	90	2"	2"	100	217	163	254	140	444	145	260	544	611	172	432	465	330			
	100				203	164	314	160	476			576	681					440	298	
	112							190	497			597	681							440
	132 M-S				221	185	389	216	558			658	724					452	502	
	132 MB							280	225			460	254							703
	160																			
CSA 50-145	80	2 1/2"	2"	80	169	141	254	125	374	95	220	454	569	139	359	384	298			
	90				175			140	422		230	502			369	394				
	100				161	142	314	160	454		240	534	639		379	445	330			
	112							168	190		475	230			555	369		435		
	132 M-S				180	164	389	216	537		255	617	682		394	477	370			
	160																			
CSA 50-175	80	2 1/2"	2"	80	169	141	254	125	374	100	230	454	569	154	384	394	298			
	90				175			140	422		240	534			394	445				
	100				161	142	314	160	454		230	555	639		384	435	330			
	112							168	190		475	255			616	682		409	477	370
	132 M-S				180	164	389	216	537		255	661	737		434	543	430			
	132 MB							243	208		460	254	686		280	766	937	434	543	430
160																				

CSA OVERALL DIMENSIONS



Dimensions not binding - DN = "Clamp" DIN 32676-C connections, with standard IEC/EN motors

Pumps	IEC motors size:	DNa	DNm	A	B	C	D	E	F	G	H	K	K'	I	J	J'	L											
CSA 50-210	90	2 1/2"	2"	80	175	141	254	140	422	120	240	502	569	168	408	412	298											
	100				161	142	314	160	454			534	639			445	330											
	112				168			190	475			555																
	132 M-S				180	164	389	216	537			617	682			418	472	370										
	132 MB				243	208	460	254	686			280	766			937	448	543	430									
	160				173	223	600	279	783			305	863			1072	473	637	420									
CSA 50-260	100	2 1/2"	2"	90	194	165	314	160	477	145	270	567	672	179	449	475	330											
	112				201			190	498			588																
	160				273	228	460	254	706			280	796					970	459	543	430							
	180				188	600	279	788	305			878	1087					484	637	420								
CSA 65-145	80	3"	3"	79	172	145	254	125	379	112	245	458	572	138	383	409	298											
	90				178			140	426			505	642					393	477	370								
	100				164	146	314	160	458			537	642															
	112				171			190	479			558																
	132 M-S				183	168	389	216	541			620	685								393	477	370					
	132 MB				246	212	460	254	690			280	769								940	418	543	430				
160	178	144	254	140	425	305	864	1073	443	637	420																	
CSA 65-175	90	3"	3"	80	164	145	314	160	457	120	255	537	642	138	393	460	330											
	100				171			190	478			558																
	112				183	167	389	216	540			620	685					418	543	430								
	132 M-S				246	211	460	254	689			280	769								940							
	132 MB				174	224	600	279	784			305	864								1073	443	637	420				
	160				212	168	254	140	449			539	605								158	423	470	330				
100	198	169	314	160	481	571	676																					
112	205			190	502	592																						
160	276	231	460	254	709	280	799	974	438	543	430																	
180	191	600	279	791	305	881	1090	463	637	420																		
CSA 65-210	90	3"	3"	90	212	168	254	140	449	135	265	539	605	158	423	470	330											
	100				198	169	314	160	481			571	676					438	543	430								
	112				205			190	502			592																
	160				276	231	460	254	709			280	799								974	438	543	430				
	180				191	600	279	791	305			881	1090								463	637	420					
	CSA 65-260				100	3"	3"	100	207			168	314								160	480	155	285	580	685	193	478
112		214			190				501	601	685	498	637	420														
132 M-S		226	190	389	216				563	663	728				478	507	370											
132 MB		226	190	389	216				607	707	783																	
160		285	230	460	254				708	808	983							498	637	420								
180		200	600	279	790				305	890	1099																	
CSA 80-175	100	4"	3"	100	231	174	315	160	486	139	275										586	691	164	439	480	330		
	112				220			190	507			607	691	444							543	430						
	132 M-S				231	195	389	216	568			668	734		469	637	420											
	160				291	236	460	254	714			280	814														989	
	180				206	600	279	796	305			896	1105					469	637	420								
	CSA 80-210				100	4"	3"	100	210			171	314					160	483	145							285	583
112		217			190				504	604	688	469	637					420										
132 M-S		229	193	389	216				566	666	731			449					507		370							
160		288	233	460	254				711	811	986				548	430												
180		203	600	279	793				305	893	1102						469					637	420					
CSA 80-260		100	4"	3"	100				210	171	314													160	483	165		300
	112	217						190	504	604	688									522				370				
	132 M-S	229				193	389	216	566	666	731	522	370															
	132 MB	229				193	389	216	610	710	786			563				430										
	160	288				233	460	254	711	811	986				563	430												
	CSA 100-210	100				5"	4"	111	246	200	389						216		573		161	305	683		750		214	
112		221	240	600	279				800	911	1120						527		370									
132 M-S		246	195	389	216				612	727	803									547			370					
CSA 100-260	100	5"	4"	115	305	235	460	254	713	186	325	828	1004								216	541		588	430			
	112				220			600	279			795	910	1118			657	420										
	160				220			600	279			795	910	1118	657	420												
180																												

SANITARY SELF-PRIMING PUMPS

ASH SERIES



INDEPENDENT SUPPORT

In stainless steel for different sizes, suitable for motors IEC - NEMA.



SEPARATE MOTOR

For a self-sufficient choice in compliance with the following standards:

- IEC 34 - 1
- VDE 0530T1
- NF C51 - 111
- BS 5000 PART. 99
- NEMA MG1 PART. 1



CASING

Casing with side duct, of suitable thickness and perfect development of the shape enhanced by investment casting. Internal finishing by polishing with roughness of 0,8 micron.



IMPELLER

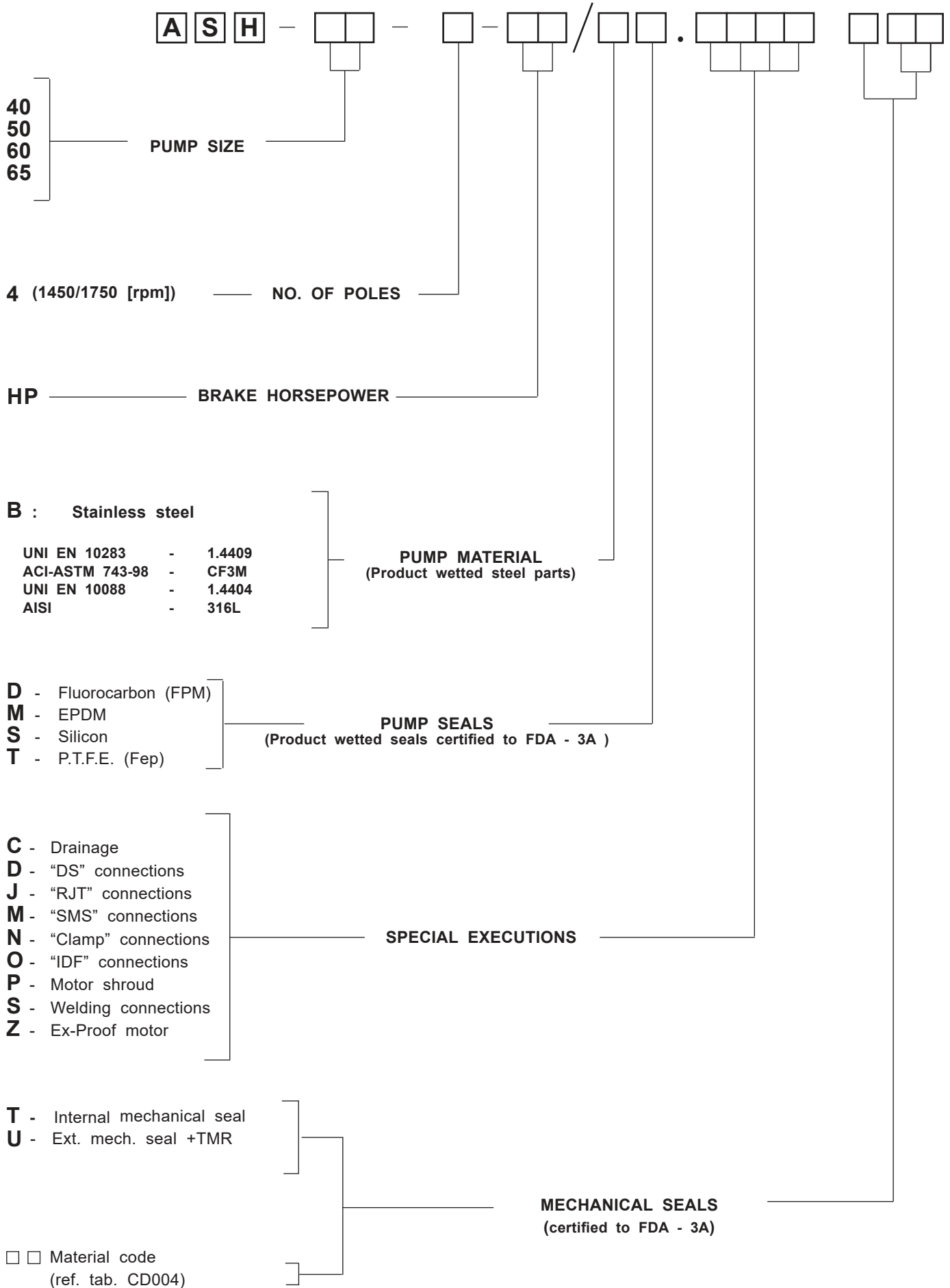
Manufactured from solid with perfect shapes, thickness and materials. Roughness of 0,8 micron obtained by electro-chemical polishing.



COVER

Achieved by investment casting, machined and polished according to hygienical regulations with roughness of 0,8 micron.

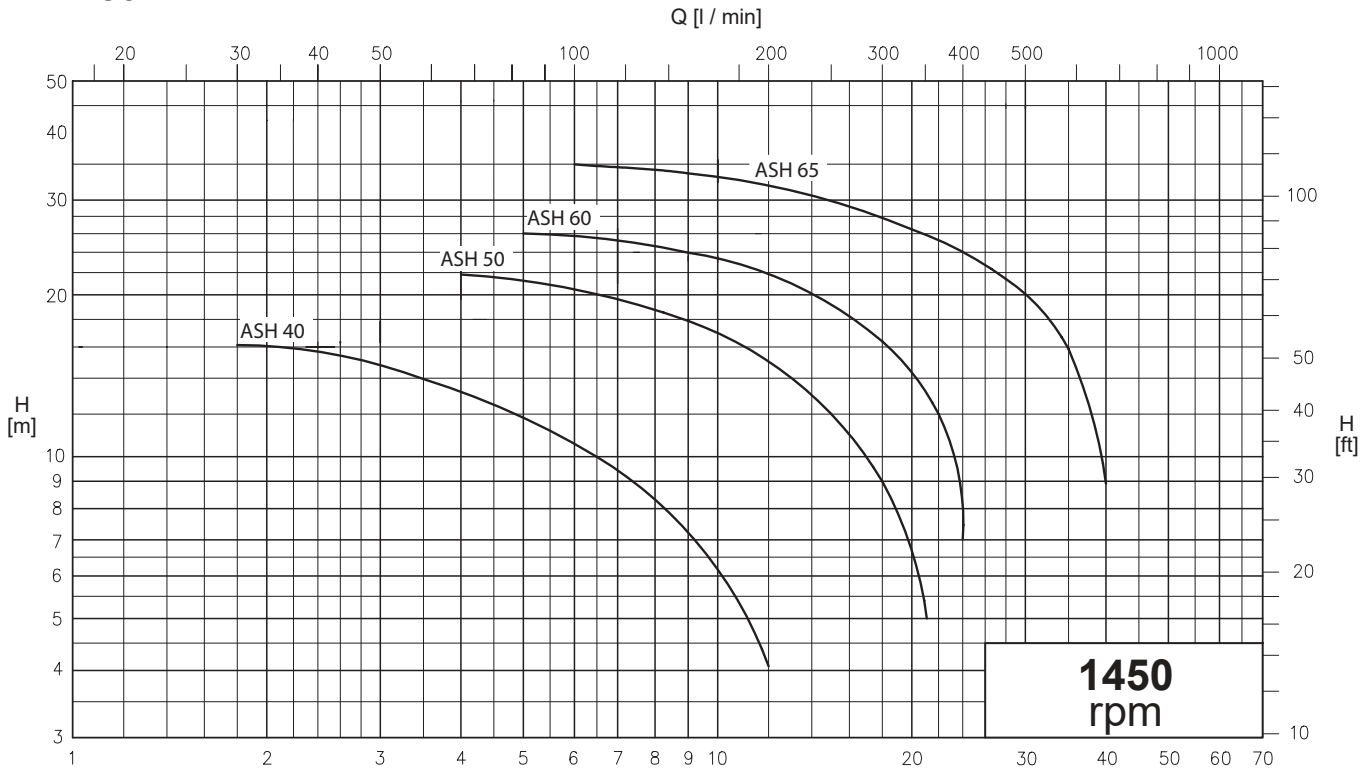
PUMP CODES GUIDE



Example: **ASH 50-4-3/BM.P**

GENERAL DIAGRAM ASH

A 50 Hz

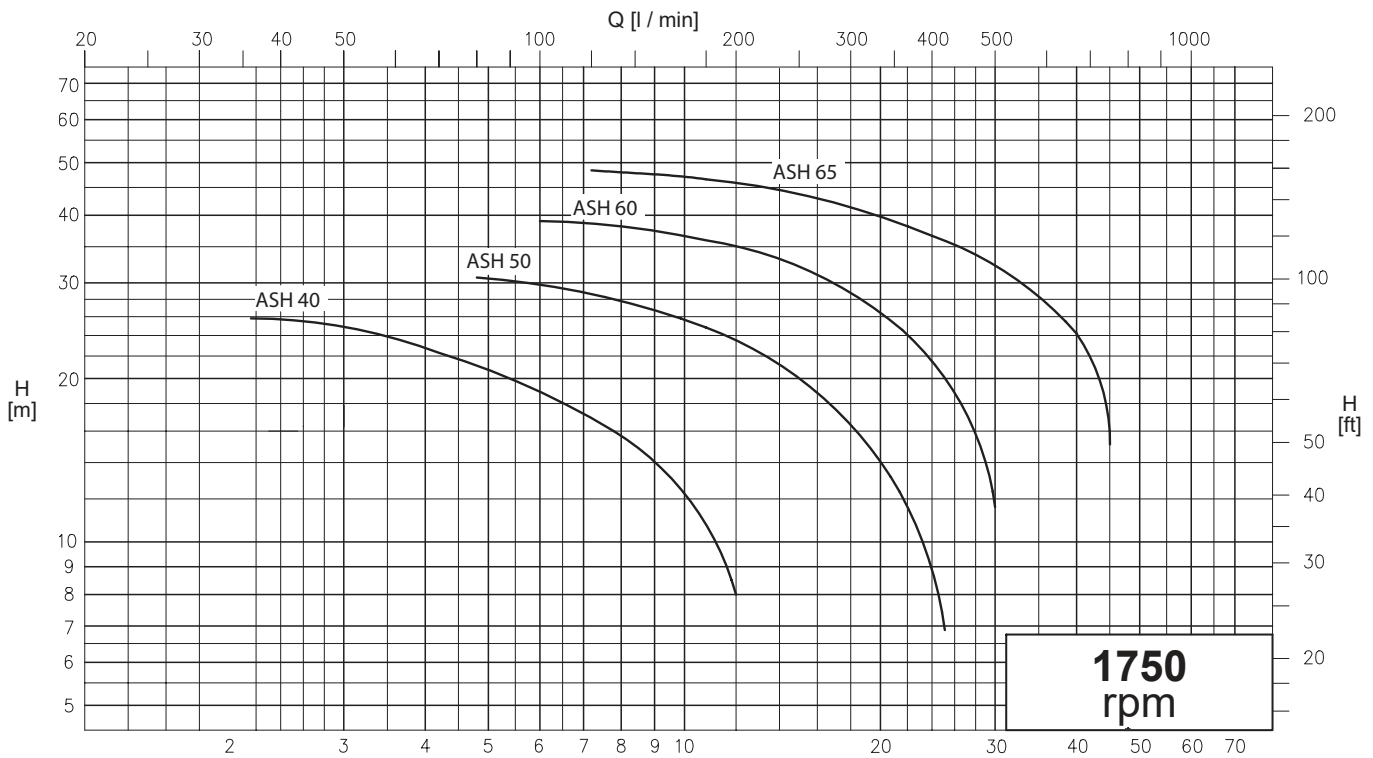


Performance applies to H₂O at 20 °C (68 °F), 1013 millibar

Q [m³ / h]

Data not binding.

A 60 Hz



Performance applies to H₂O at 20 °C (68 °F), 1013 millibar

Q [m³ / h]

Data not binding.

ASH series

Close coupled sanitary self-priming pumps with independent shaft support.

Suitable for motors in compliance with the following standards: IEC 34-1

- VDE 0530T1
- NF C51-111
- BS5000 PART 99
- NEMA NG1 PART. 1



n° 02 - 11 739

Greased lubricated bearings.
Clamp design casing and seal. Easy disassembly, quick inspection, cleaning and maintenance.

Seals:

Single internal mechanical seal, protected, balanced and bi-directional, with seats according to EN 12756, ISO 3069.

Elastomers (certified to FDA - 3A - USP VI):

- EPDM
- FLUOROCARBON - (FPM)
- P.T.F.E. (FEP)

Connections:

- CLAMP DIN 32676-C
- DIN 11864



MECHANICAL SEALS

MATERIAL CODES

METALS

- X - Stainless steel
AISI 316L
- L - Hastelloy (Ni alloy)

CARBONS

- V - normal carbon
- Z - special carbon

RESINS

- 5 - normal PTFE
- 4 - loaded PTFE
- F - O-Ring FEP

METAL CARBONS

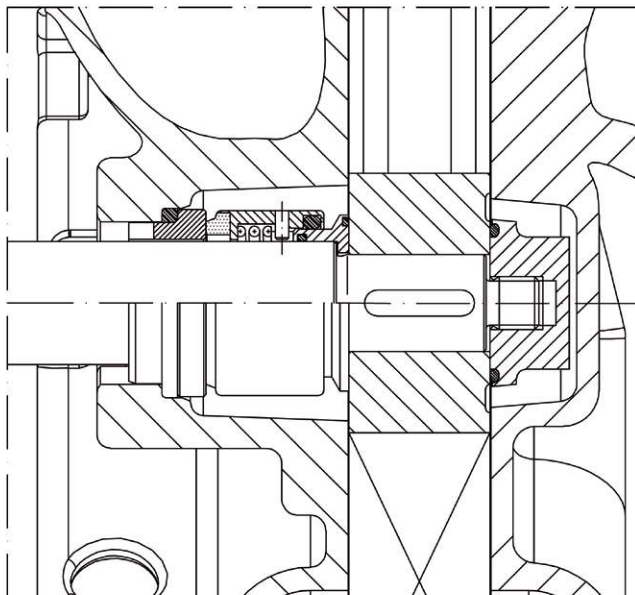
- 3 - Hard metal welded on stainless steel (TUC)
- R - Anti-corrosion hard metal (TUC)
- K - Integral silicate carbon (SIC)

ELASTOMERS

- 6 - Nitrile (NBR)
- 7 - Ethylene propylene (EPDM)
- W - FPM for high T
- Y - Fluorocarbon (FPM)
- B - Silicone
- Q - Chemraz
- U - Kalrez

INTERNAL MECHANICAL SEAL

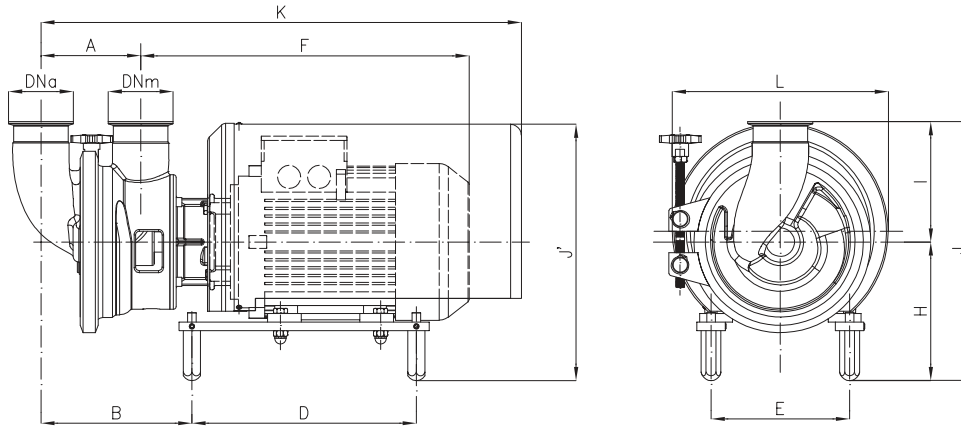
EXECUTION **H**



It contemplates the assembly of a mechanical seal dipped in the product, placed behind the impeller in a conic chamber with appropriate lubrication conditions. Protected and balanced execution with a shape easily cleanable ideal for sanitary and pharmaceutical applications. It is suitable for viscous and dirty products, vacuum applications or those subject to differences in pressure.



ASH OVERALL DIMENSIONS



Dimensions not binding - DN = "Clamp" DIN 32676-C connections, with standard IEC/EN motors

Pumps	1450 rpm	kW	DNa	DNm	A	B	D	E	F	H	K	I	J	J'	L							
ASH 40		1,1	1" 1/2	1" 1/2	90,5	183	245	140	410	228	551	139	376	376	239							
	1,5	148,5				314										160	433	238	617	386,5	403	330
	2,2	176,5				314										160	432	238	645	386,5	403	330
ASH 50	2,2	2"	2"	118	183,5	314	190	453	250	645	149	398,5	415	330								
	4				211										314	190	460	250	672	418,5	415	330
	5,5				215										390	216	512	270	749	438,5	489	372
ASH 60	4	3"	3"	139	211	314	190	460	250	672	169	418,5	415	330								
	5,5				215										390	216	512	270	749	438,5	489	372
	7,5				215										390	216	512	270	749	438,5	489	372
ASH 65	5,5	3"	3"	139	215	390	216	512	270	749	169	438,5	489	372								
	7,5				266										460	254	650	280	914	448,5	536	432
	15				266										460	254	650	280	914	448,5	536	432

CURVE CARATTERISTICHE

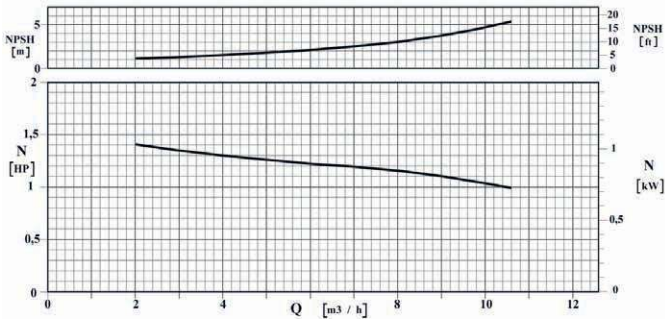
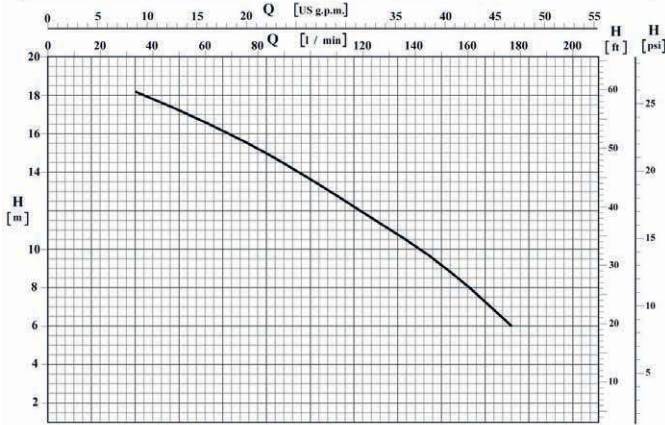
PERFORMANCE CURVES

Serie ASH

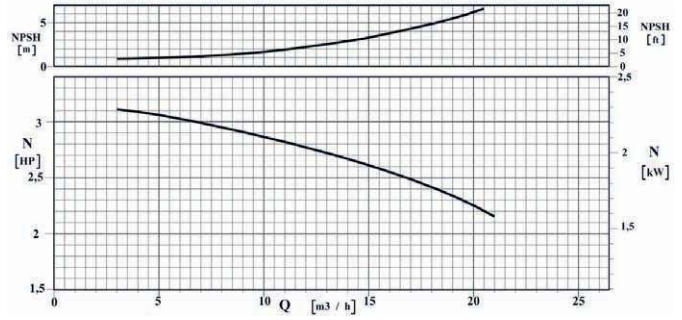
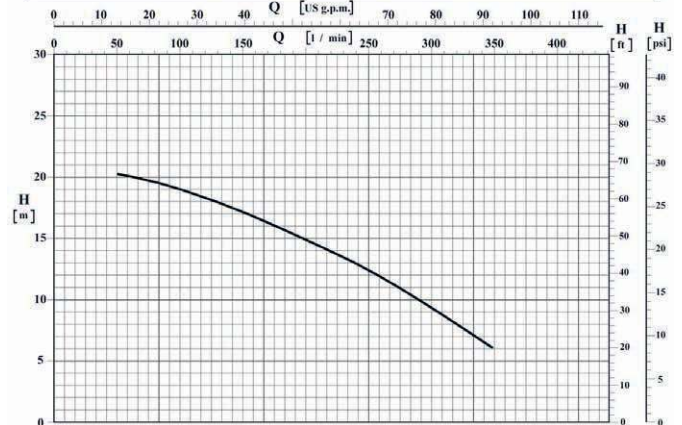
ASH Series

1450 giri/min - 1450 rpm

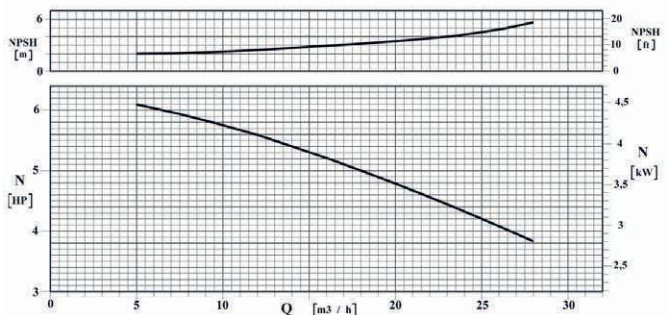
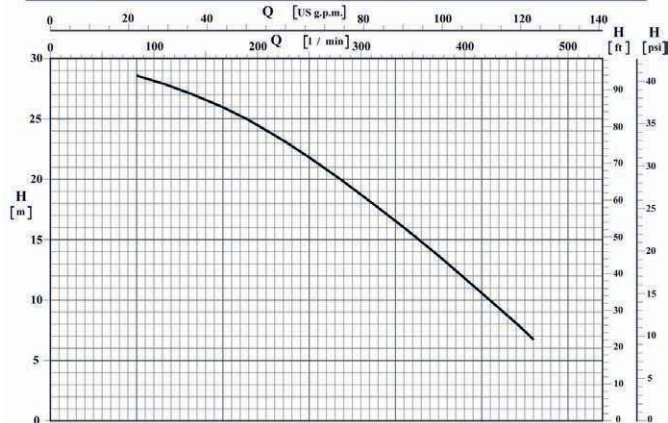
POMPA TIPO Pump type		ASH 40		n	1400	giri / min r. p. m.
TIPO Type	N° di pale n° of vanes	Pass. sferico max. sphere	GIRANTE - Impeller		Bocche tipo Ports type	Bocca aspir. Discharge port
			ϕ max max. diameter	ϕ min min. diameter		
RADIALE	24	-- mm	145,5 mm	-- mm	CLAMP	DN 1"1/2 Bocca mand. Suction port
CARATTERISTICHE DI FUNZIONAMENTO CON ACQUA PULITA A 20°C - PESO SPECIFICO 1 (kg/dm ³) Curves show performance with clear water at 70°F - Specific gravity 1 (kg/dm ³)						



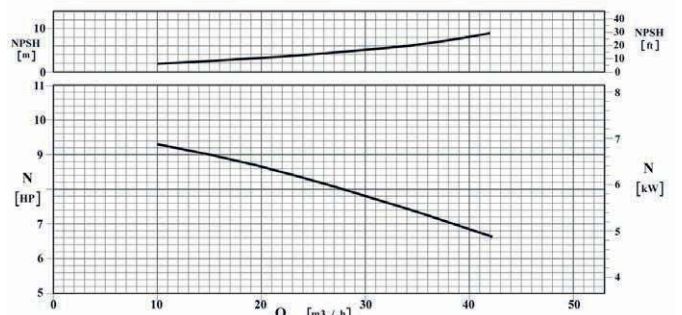
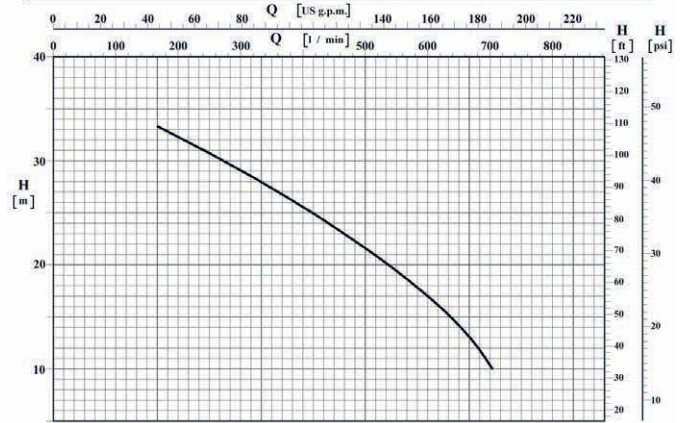
POMPA TIPO Pump type		ASH 50		n	1450	giri / min r. p. m.
TIPO Type	N° di pale n° of vanes	Pass. sferico max. sphere	GIRANTE - Impeller		Bocche tipo Ports type	Bocca aspir. Discharge port
			ϕ max max. diameter	ϕ min min. diameter		
RADIALE	16	-- mm	164 mm	-- mm	CLAMP	DN 2" Bocca mand. Suction port
CARATTERISTICHE DI FUNZIONAMENTO CON ACQUA PULITA A 20°C - PESO SPECIFICO 1 (kg/dm ³) Curves show performance with clear water at 70°F - Specific gravity 1 (kg/dm ³)						



POMPA TIPO Pump type		ASH 60		n	1450	giri / min r. p. m.
TIPO Type	N° di pale n° of vanes	Pass. sferico max. sphere	GIRANTE - Impeller		Bocche tipo Ports type	Bocca aspir. Discharge port
			ϕ max max. diameter	ϕ min min. diameter		
RADIALE	16	-- mm	200 mm	-- mm	CLAMP	DN 3" Bocca mand. Suction port
CARATTERISTICHE DI FUNZIONAMENTO CON ACQUA PULITA A 20°C - PESO SPECIFICO 1 (kg/dm ³) Curves show performance with clear water at 70°F - Specific gravity 1 (kg/dm ³)						



POMPA TIPO Pump type		ASH 65		n	1450	giri / min r. p. m.
TIPO Type	N° di pale n° of vanes	Pass. sferico max. sphere	GIRANTE - Impeller		Bocche tipo Ports type	Bocca aspir. Discharge port
			ϕ max max. diameter	ϕ min min. diameter		
RADIALE	16	-- mm	200 mm	-- mm	CLAMP	DN 3" Bocca mand. Suction port
CARATTERISTICHE DI FUNZIONAMENTO CON ACQUA PULITA A 20°C - PESO SPECIFICO 1 (kg/dm ³) Curves show performance with clear water at 70°F - Specific gravity 1 (kg/dm ³)						



CURVE CARATTERISTICHE

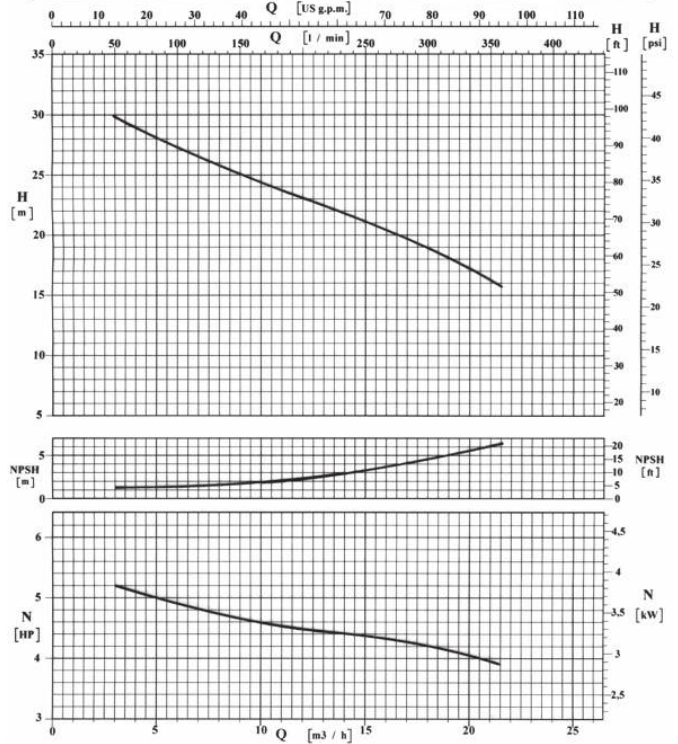
PERFORMANCE CURVES

Serie ASH

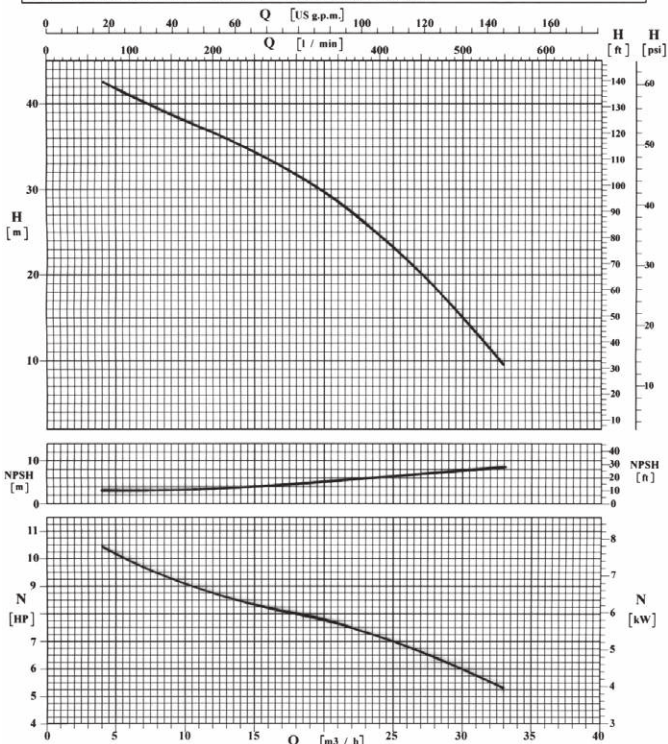
ASH Series

1750 giri/min - 1750 rpm

POMPA TIPO Pump type		ASH 50			n	1750	giri / min r. p. m.
GIRANTE — Impeller							
TIPO Type	N° di pale n° of vanes	Pass. sferico max. sphere	φ max max. diameter	φ min min. diameter	Bocche tipo Ports type	Bocca aspir. Discharge port	DN 2"
RADIALE	16	-- mm	164 mm	-- mm	CLAMP	Bocca mand. Suction port	DN 2"
CARATTERISTICHE DI FUNZIONAMENTO CON ACQUA PULITA A 20°C - PESO SPECIFICO 1 (kg/dm ³) Curves show performance with clear water at 70°F - Specific gravity 1 (kg/dm ³)							



POMPA TIPO Pump type		ASH 60			n	1750	giri / min r. p. m.
GIRANTE — Impeller							
TIPO Type	N° di pale n° of vanes	Pass. sferico max. sphere	φ max max. diameter	φ min min. diameter	Bocche tipo Ports type	Bocca aspir. Discharge port	DN 3"
RADIALE	16	-- mm	200 mm	-- mm	CLAMP	Bocca mand. Suction port	DN 3"
CARATTERISTICHE DI FUNZIONAMENTO CON ACQUA PULITA A 20°C - PESO SPECIFICO 1 (kg/dm ³) Curves show performance with clear water at 70°F - Specific gravity 1 (kg/dm ³)							



POMPA TIPO Pump type		ASH 65			n	1750	giri / min r. p. m.
GIRANTE — Impeller							
TIPO Type	N° di pale n° of vanes	Pass. sferico max. sphere	φ max max. diameter	φ min min. diameter	Bocche tipo Ports type	Bocca aspir. Discharge port	DN 3"
RADIALE	16	-- mm	200 mm	-- mm	Clamp	Bocca mand. Suction port	DN 3"
CARATTERISTICHE DI FUNZIONAMENTO CON ACQUA PULITA A 20°C - PESO SPECIFICO 1 (kg/dm ³) Curves show performance with clear water at 70°F - Specific gravity 1 (kg/dm ³)							

