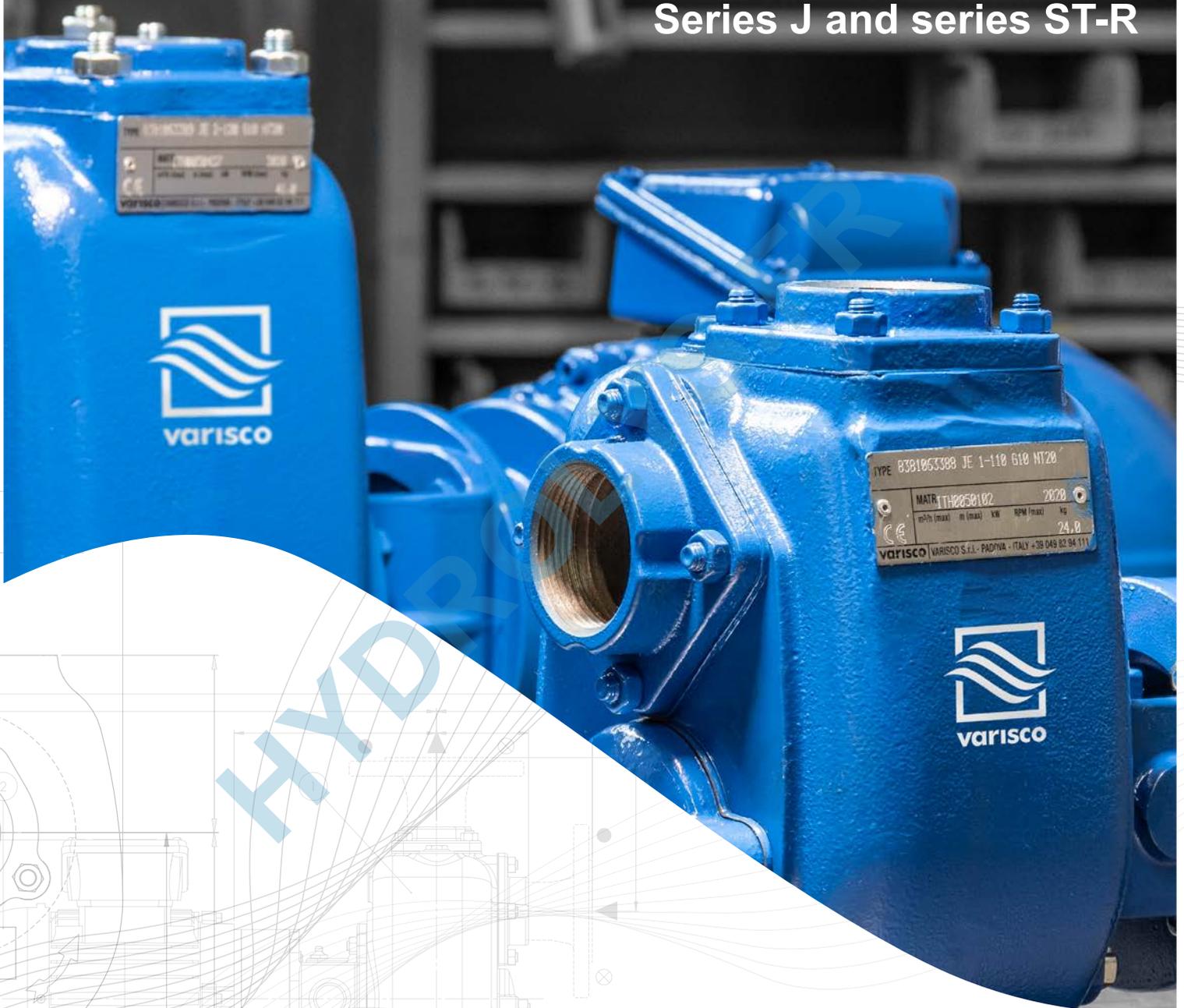


# Self-priming centrifugal pumps

## Series J and series ST-R



TYPE 8391053388 JE 1-110 G10 NT28  
MATR TH0050102 2020  
m<sup>3</sup>/h (max) m (max) kW RPM (max) kg  
24,0  
VARISCO VARISCO S.p.A. - PADOVA - ITALY +39 049 82 94 111



**varisco**<sup>®</sup>  
solid pumping solutions

# Self-priming centrifugal pumps

## J Series and ST-R series

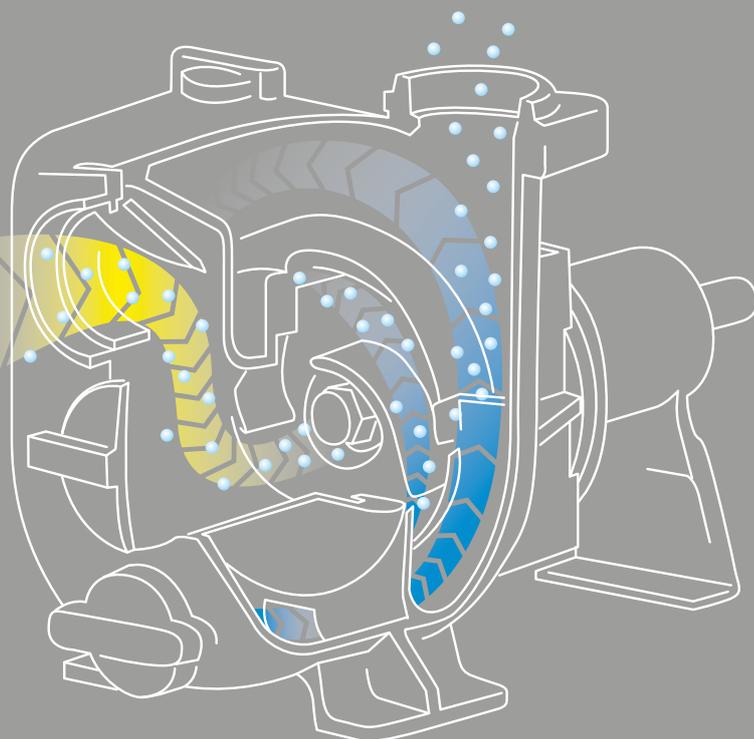
The self-priming centrifugal pumps of the series J and ST-R Varisco are designed and manufactured to guarantee high performance and ease of use in multiple industrial, purification and waste fluid management sectors in general.

Active since 1932, Varisco boasts a long and consolidated experience in the design and production of pumps for use in industrial processes. All products are characterised by their reliability and quality and are tested at the internal Research and development centre.



## Self-priming the operating principle of the J and ST-R series

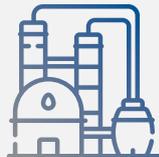
The air (yellow flow) is drawn into the pump by the vacuum created by the moving impeller, and it emulsifies with the liquid (blue) in the pump body. The air-liquid emulsion is forced into the priming chamber where the lighter air separates and comes out from the delivery pipe; the heavier liquid falls back and recirculates. Once all the air is expelled from the suction duct, the pump is activated and runs just like a regular centrifugal pump. The pump can also run with an air-liquid mixture. The non-return valve has a dual function: it prevents the suction pipe from emptying when the pump is not running; if the suction pipe is accidentally emptied, it keeps sufficient liquid in the pump body for priming. The delivery pipe must be free to release the air deriving from the suction.



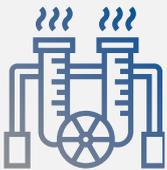
# Applications



Water purification and treatment plants: landfills, power plants, smoke abatement and washdown.



Industry: industries manufacturing painting machinery, feed industry, industries for the processing, treatment and recovery of plastic, solvent-paint-additive-glue industries, automotive industries, steel plants, tanneries, paper factories; mechanical processing industries; protection of sites subject to floods; oil mills.



Chemical and petrochemical industries.



Food industries: wine industry (washdown), canning industries



Naval and shipboard platforms for bilge-ballast-fire prevention-washdown services.



OEM: Vehicle transformation industries (concrete mixers, sprayers, road washing, water distribution); vehicle wheel wash plants.



Agriculture for irrigation and management of waste water, fertilisers; aquaculture facilities; animal farm slurry.

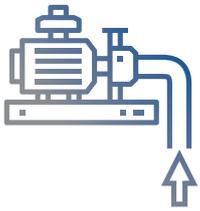
# J Series

## Main characteristics of the range

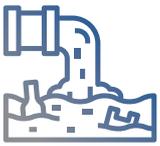
The J self-priming centrifugal pumps are used in applications requiring a fast priming capacity from demanding suction heights combined with the ability to transfer and manage polluted, waste and abrasive fluids with suspended solids.

The system features an inspectable pump casing, which also acts as a water tank allowing for early quick priming without auxiliary systems, simplifying system management and reducing maintenance times.

Within the limits of physically permissible suction heights, J pumps offer a more convenient and reliable solution compared to submersible pumps and vertical shaft pumps with submerged impellers.



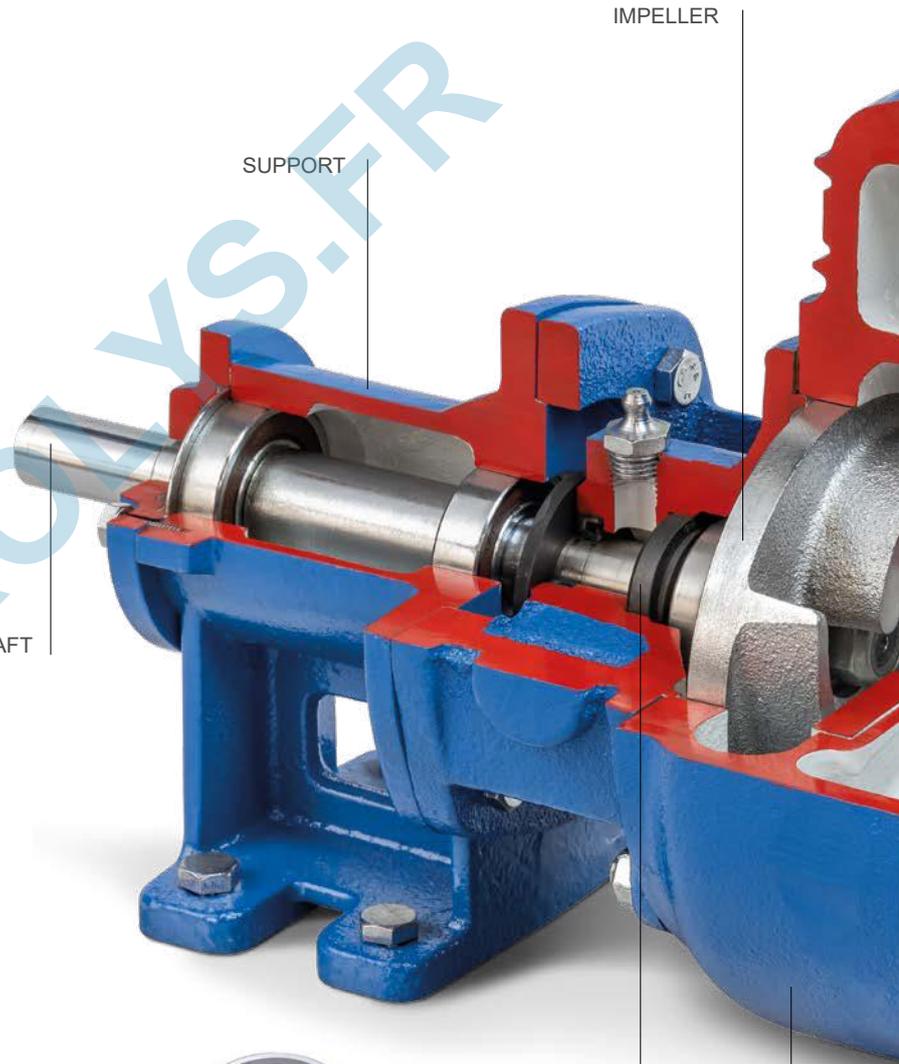
PRIMING FROM GREAT HEIGHTS



MANAGEMENT OF POLLUTING, WASTE LIQUIDS AND WITH SOLIDS



IMPELLER



SUPPORT

SHAFT

CASING



MECHANICAL SEAL

### TECHNICAL DATA

Solid passage up to 76mm

Maximum head up to 110m

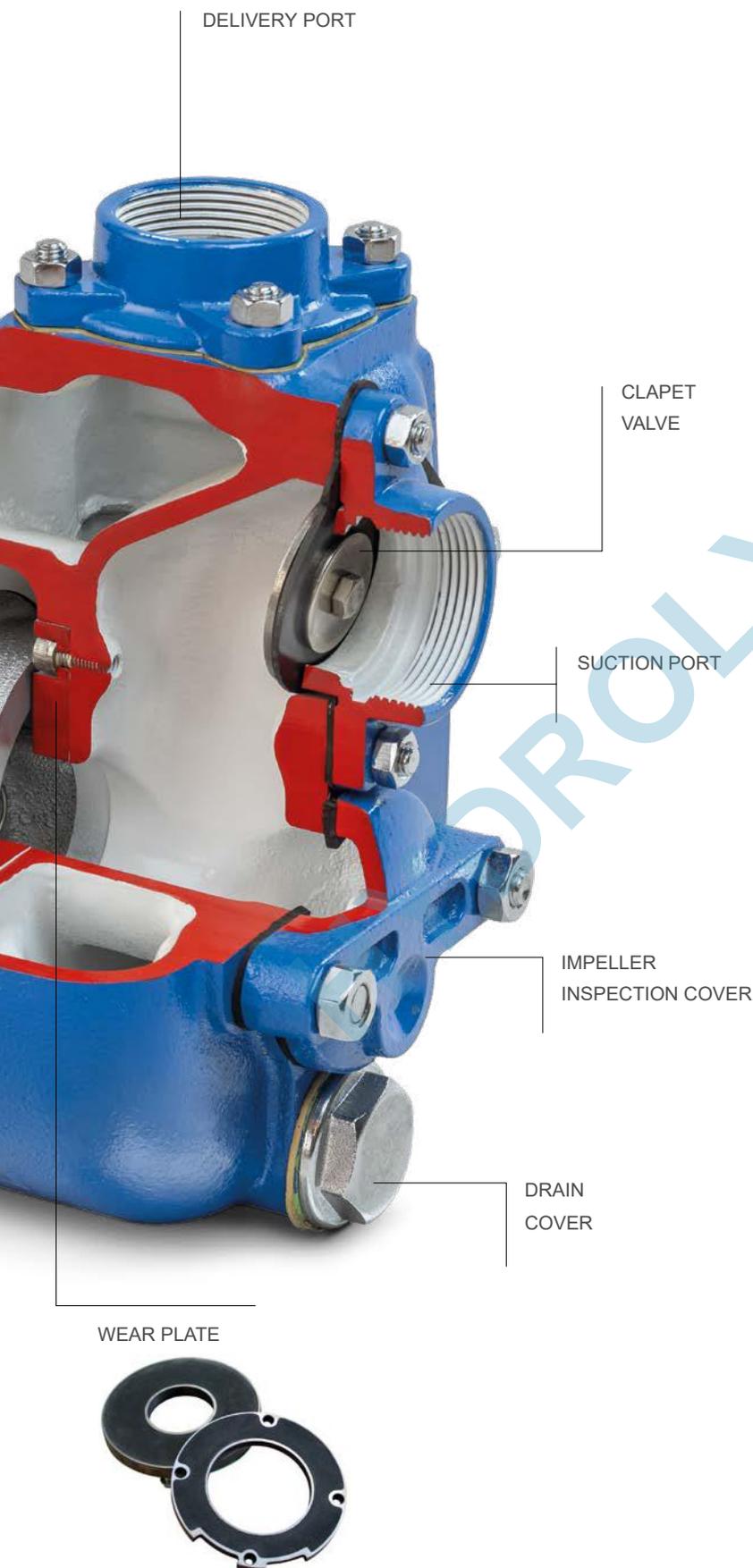
Maximum flow rate up to 1200 m<sup>3</sup>/h

Inlets up to 300mm

Self-priming capacity without auxiliary systems up to a 7.5m

Materials: cast iron, hardened cast iron, stainless steel

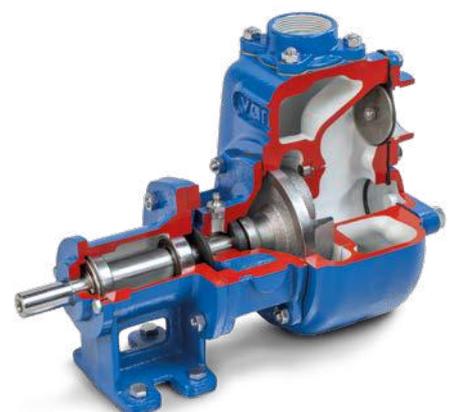




- > **Top and dry installation** to ensure easier control, maintenance and management compared to submerged or vertical shaft solutions with submerged impeller
- > Suitable for handling **challenging fluids** and heavy-duty applications
- > Castings in **different metallurgy** with high thickness for resistance to abrasive and corrosive liquids
- > Casing with **inspection and drainage** covers for filling, washing and unclogging
- > **Semi-open impeller** in different metallurgy with the passage of solids from 11 to 76 mm
- > Easily replaceable **parts subject to wear** to restore original performance
- > **Mechanical seals** with counter faces in materials selectable based on use, suitable for containing abrasion and chemical aggression
- > Management of fluids with viscosity up to 50mm<sup>2</sup>/s (cSt) with standard sizing. Option of special sizing for dense and waste mixtures and slurries

#### OPTIONAL

- > inverter
- > flange kit
- > automatic greaser
- > cutting device
- > zinc anodes



# J Series

## Main set-ups

---

**BARE SHAFT**  
JS - JS Ex



**MONOBLOCK**  
JE... - JX...



**FOR OR WITH  
HYDRAULIC  
MOTOR**  
JP MOD - JO MOD



**BASE AND JOINT**  
JE...S... BASE  
JX...S... BASE



# Technical specifications

J Series	Ports		Power	Rpm	Flow rate	Head	Power	Rpm	Flow rate	Head	ATEX**
Model	ISO 228 (BSP)	DN	Kw-50Hz	rpm	Q max - m3/h	H max - m	Kw-60Hz	rpm	Q max - m3/h	H max - m	Zones 1 - 2
J 1-110	1 1/2"	40	1,1	2900	22	16,5	1,5	3450	22	23	•
J 1-160	1 1/2"	40	2,2	2900	20	30	4	3450	21	44	N/A
J 1-180	1 1/2"	40	4	2900	25	35	5,5	3450	25	50	•
J 2-100	2"	50	1,1	2900	30	14	1,5	3450	32	20	N/A
J 2-120	2"	50	2,2	2900	40	20	4	3450	44	30	•
J 2-170	2"	50	4	2900	44	36	7,5	3450	50	52	•
J 2-180	2"	50	5,5	2900	50	38	11	3450	50	50	•
J 2-215	2"	50	11	2900	46	60	18,5	3450	46	85	•
J 3-100	3"	80	2,2	2900	60	14	3	3450	70	20	N/A
J 3-140	3"	80	4	2900	80	21	7,5	3450	83	30	•
J 3-180	3"	80	7,5	2900	84	35	15	3450	85	50	•
J 3-210	3"	80	4	1450	95	16	5,5	1750	105	23	•
J 3-225	3"	80	15	2900	95	55	N/A	N/A	N/A	N/A	•
J 3-240	3"	80	18,5	2900	80	70	30	3450	80	100	•
J 3-252	3"	80	22	2900	95	80	45	3450	95	108	•
J 3-305	3"	80	75	2900	105	110	N/A	N/A	N/A	N/A	•
J 4-100	4"	100	4	2900	100	15	7,5	3450	110	21	N/A
J 4-160	4"	100	11	2900	150	24	N/A	N/A	N/A	N/A	•
J 4-220	4"	100	5,5	1450	130	15	11	1750	160	21	•
J 4-225	4"	100	22	2900	150	46	N/A	N/A	N/A	N/A	•
J 4-250	4"	100	7,5	1450	160	20	15	1750	160	30	•
J 4-316	4"	100	18,5	1450	170	30	30	1750	170	46	•
J 6-250	/	150	11	1450	320	18	18,5	1750	340	26	•
J 6-350	/	150	30	1450	310	35	N/A	N/A	N/A	N/A	•
J 6-400	/	150	45	1450	380	37	75	1750	420	54	•
J 8-300	/	200	22	1450	480	22	45	1750	510	32	•
J 8-305	/	200	18,5	1450	380	20	30	1750	480	32	•
J 10-305	/	250	30	1450	600	21	45	1750	600	34	•
J 12-400	/	300	55	975	1200	17	90	1150	1290	27	N/A

ATEX\*\*  
= not available in every material combination



# Series ST-R

## Main characteristics of the range

The ST-R self-priming centrifugal pumps are designed to facilitate unclogging operations in the field and ensure easy maintenance and high levels of reliability.

The front inspection cover can be used to access all internal parts without disconnecting the pipes and without removing the pump from the installation.



FOR UNCLOGGING OPERATIONS  
IN THE FIELD



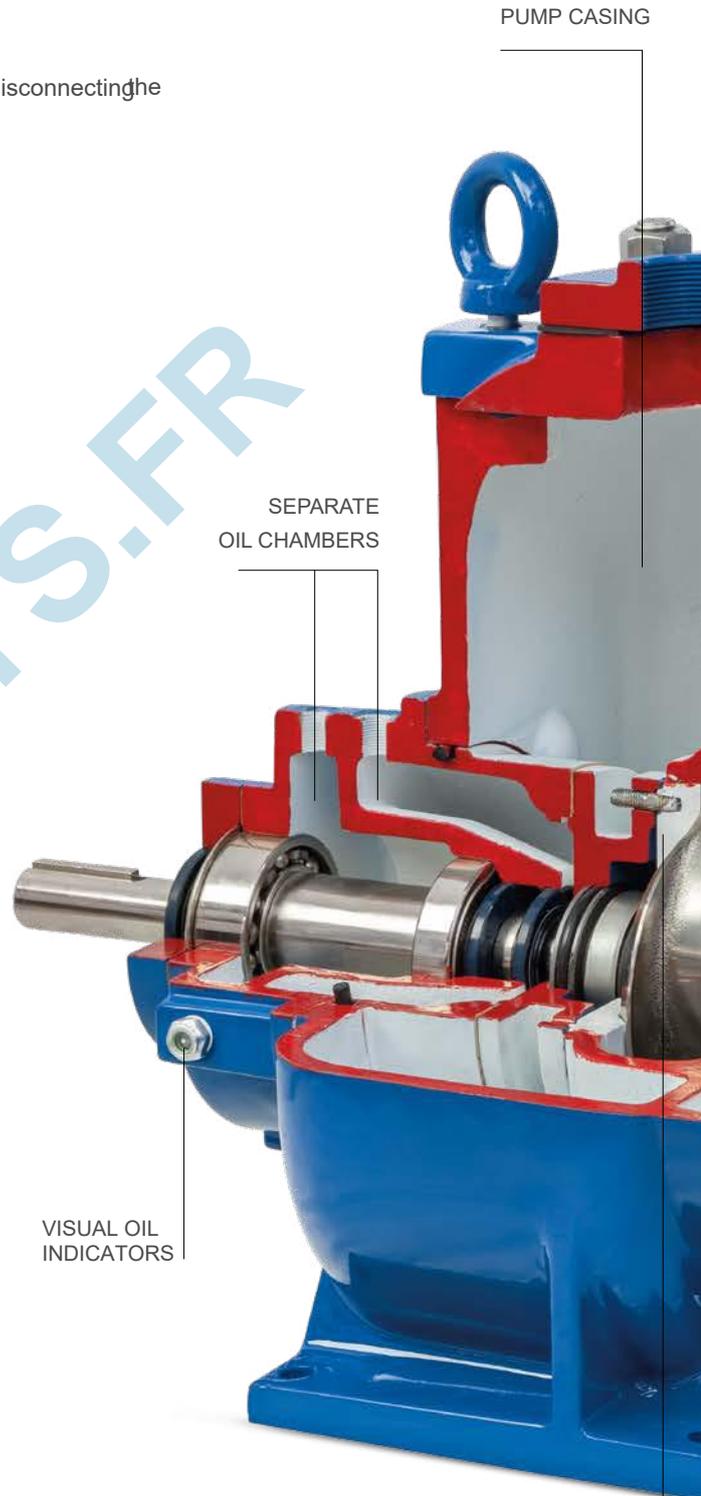
EASY MAINTENANCE



REMOVABLE IMPELLER ASSEMBLY



MECHANICAL SEAL



PUMP CASING

SEPARATE  
OIL CHAMBERS

VISUAL OIL  
INDICATORS

WEAR PLATES,  
FRONT PLATE  
ADJUSTABLE  
FROM OUTSIDE

### TECHNICAL DATA

Solid passage up to 76mm

Maximum head up to 35m

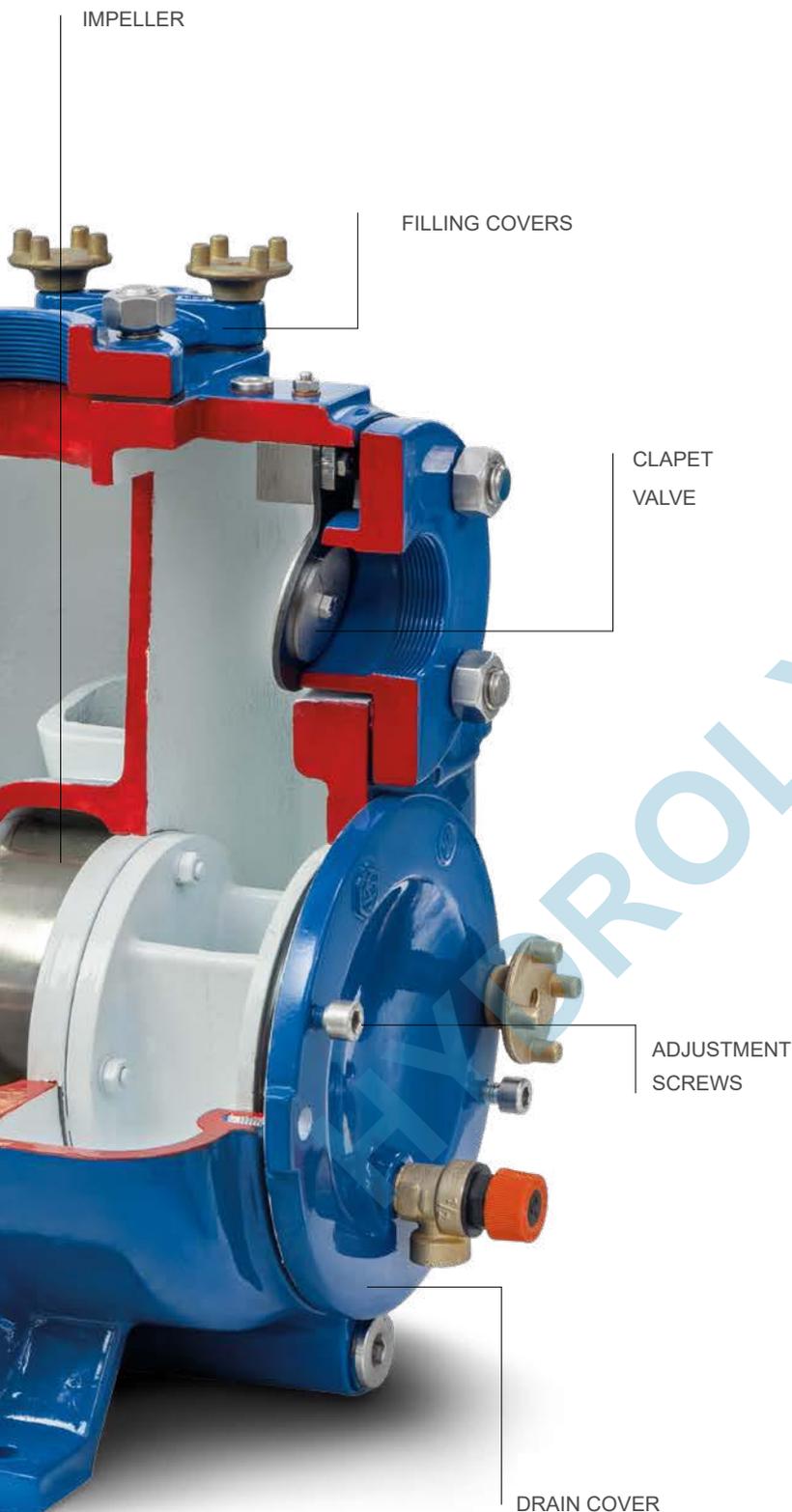
Maximum flow rate up to 420 m<sup>3</sup>/h

Inlets up to 200mm

Self-priming capacity  
without auxiliary systems up to a 7.5m

Materials: cast iron, hardened cast iron, stainless  
steel (internal parts only)





- > **Removable front cover** allows washing, unclogging in the field and routine maintenance operations without disconnecting the pipes and removing the pump from the installation.
- > **Semi-open impeller** made from casting, with two high thick vanes, with the passage of solids from 38 to 76 mm.
- > **Rotating unit** fully removable from the rear; if a spacer coupling is fitted, the operation can be performed without disassembling the motor, pump, and pipes.
- > **Clapet valve** easily replaceable through the inspection cover without disconnecting the pipes.
- > **Front and rear wear plates** rubber lined to protect the impeller vanes from abrasion.
- > **Front wear plate** easily adjustable from the outside (via adjusting screws) to restore original performance
- > **Mechanical seal** self-aligning in tungsten carbide with elastomers in Viton®
- > Mechanical seal and bearings placed inside **separate and independent oil chambers**, with level check visual indicators, to ensure greater reliability in case of dry running
- > **Upper cover and lower drain plug** to allow filling, emptying, and washing of the pump casing
- > **Relief valve** to protect the pump and system from incorrect operations

#### OPTIONAL

- > flange kit



# Series ST-R

## Main set-ups

**BARE SHAFT  
ST-R**



**BASE AND JOINT  
ST-R BASE**



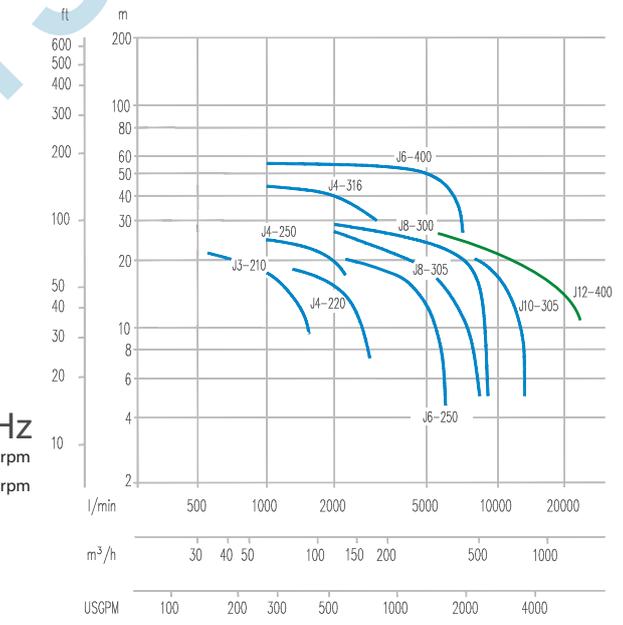
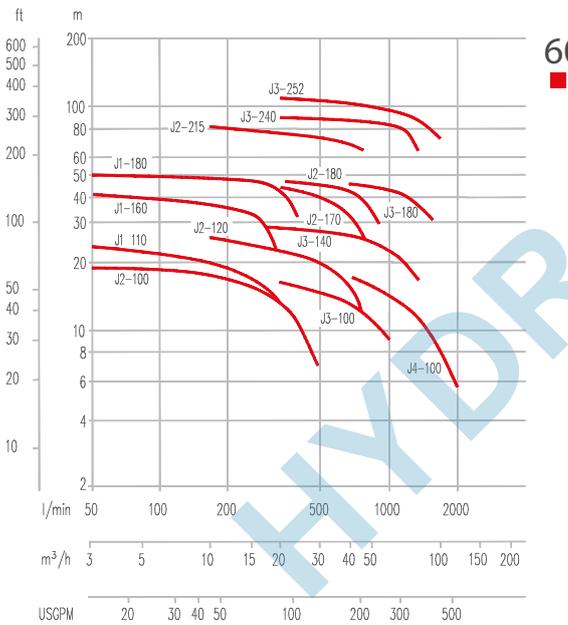
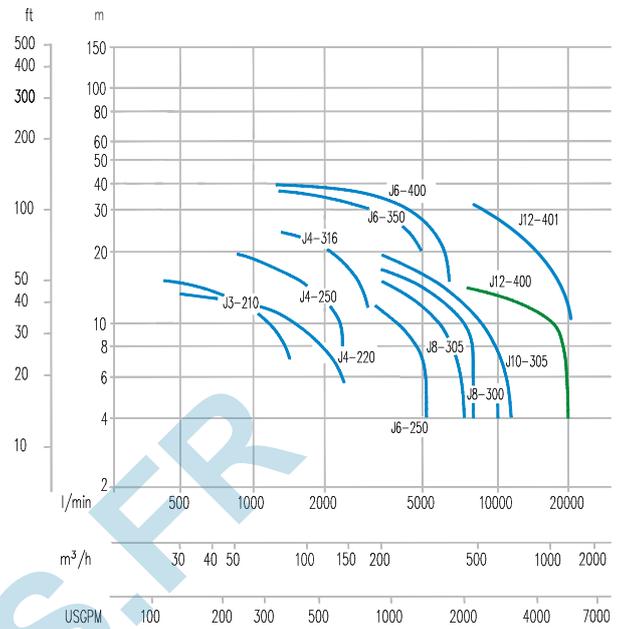
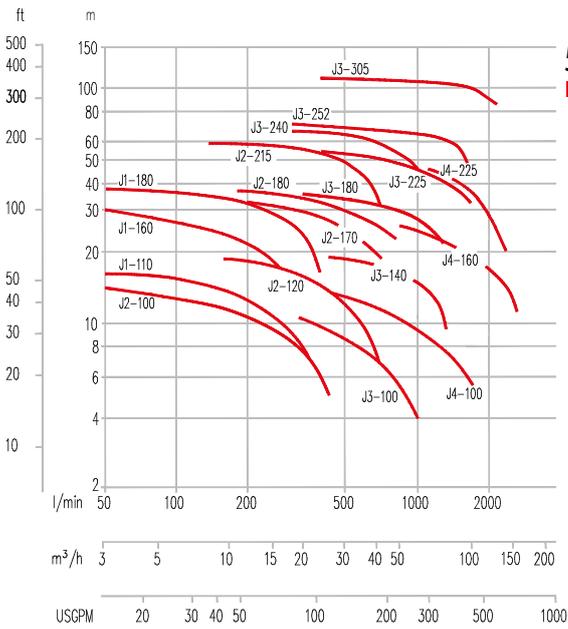
## Range characteristics

ST Series		Ports		std Power		Performance		std Power		Performance		ATEX
Pump Type	ISO 228 (BSP)	DN	Kw-50hz	RPM	max Q m <sup>3</sup> /h	max H m	Kw-60Hz	RPM	max Q m <sup>3</sup> /h	max H m	Areas 1 - 2	
ST-R 2	2"	50	7,5	2900	50	36	N/A	N/A	N/A	N/A	N/A	
ST-R 2	2"	50	1,5	1450	34	9	2,2	1750	39	16	N/A	
ST-R 3	3"	80	5,5	1450	100	17	11	1750	110	25	N/A	
ST-R 4	4"	100	11	1450	170	20	18,5	1750	180	29	N/A	
ST-R 6	/	150	30	1450	340	30	N/A	N/A	N/A	N/A	N/A	
ST-R 6	/	150	7,5	960	260	14	15	1150	310	19	N/A	
ST-R 8	/	200	18,5	960	420	19	37	1150	520	26	N/A	

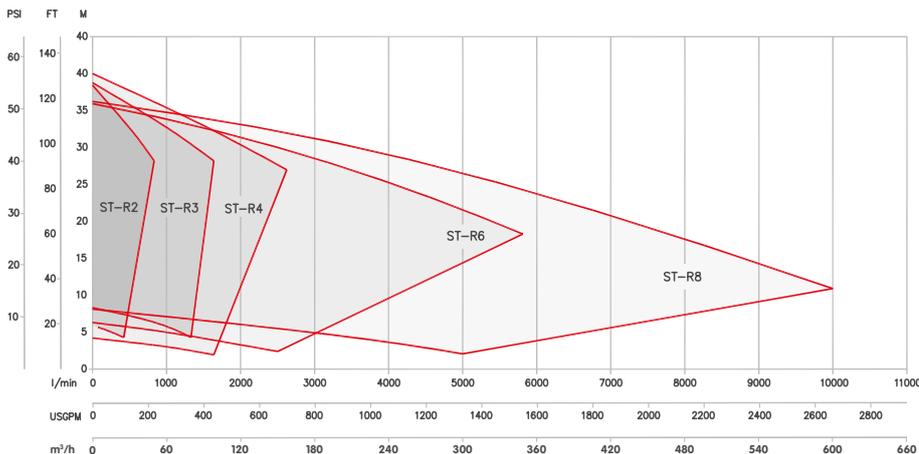


# J Series

## Performance curves



## Series ST-R



HYDROLYS.FR

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solid pumping solutions

