

exakta

A Division of SEKO Group

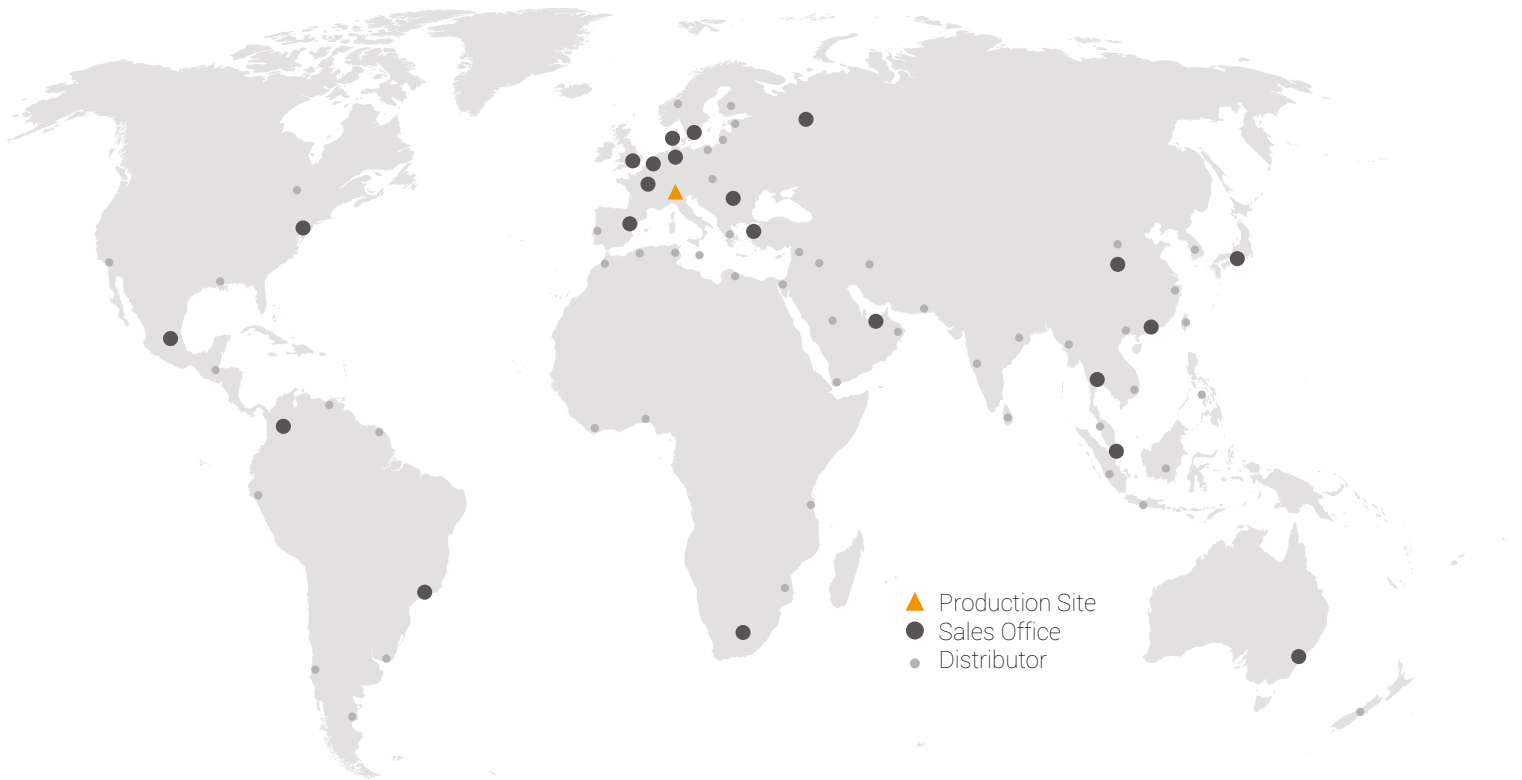
Solutions for
Industrial Processes

Your Choice,
Our Commitment



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Globally Present, Locally Active

A Worldwide Group at your service

Our Global presence ensures that we can support our Customers wherever they are. Supported by teams in over 20 countries, as well as by our accredited Partner Distributor network, we ensure professional, local customer support in over 120 countries, with the added benefit of rapid delivery of goods to meet your needs.

All this backed up and supported by a world-class team of Technical Customer Service, able to provide all the back-up or technical support needed. With ISO-certificated production sites in Europe, the Americas and Asia, we are close to our customers and fully compliant with all local norms both in terms of our product designs as much as our production facilities.

A key partner to heavy industry

Since 1963, operating originally as Bono Exacta, this business unit has become one of the world's leading manufacturers of process and metering pumps for heavy-duty applications under the name of SEKO Industrial Processes.

With vast experience providing integrated and customized dosing solutions across the oil and gas sector, Exakta's expertise means we're a trusted partner of the major players worldwide.





Committed to

Customer Satisfaction

At Exakta we work alongside our customers to deliver a bespoke advisory service at every stage. From early project development to on-site installation we assist in selecting the most suitable accessories, drafting ad-hoc reports, providing technical analysis and issuing predictive maintenance guidance for a complete turnkey service.

Working with sophisticated CAD stations, 3D modelling and FE software, skilled engineers provide design and solution engineering to meet the most demanding international standards including ASME, ANSI, BS and API, tailored to individual project specification.



Certified Manufacturing Processes

Since 1994 Exakta has operated in accordance with ISO 9001 quality management standards, today audited and certified by DET NORSKE VERITAS (DNV). This globally-recognized system ensures customer satisfaction through effective application of processes including:

- Sales process controls to ensure superior customer support
- Design innovation processes that deliver "state of the art" products for specific applications
- Centralized supply chain controls to minimize delivery times
- Strict quality controls on received and delivered materials

Lean manufacturing processes enables us to be highly flexible and responsive to customer demand and market changes while achieving outstanding environmental performance acknowledged by ISO 14001 certification.

Exakta's dedication to protecting the wellbeing of our employees has been recognised with ISO 45001 certification for occupational health and safety management, confirming an ongoing commitment to reducing workplace risks and creating healthy, safe working conditions for every member of the Exakta team.

Exakta
Industry Sectors





Oil & Gas

From onshore to offshore, dosing solutions in the oil and gas industry must cope with stringent technical specifications and harsh environmental conditions.

In upstream, midstream and downstream applications, operators require process and metering pumps for chemical injection to achieve:

- Equipment protection
- Flow assurance and production
- Produced water treatment
- Hydrate control
- Crude oil processing

It is essential that pumps in this sector are capable of high accuracy, repeatability and linearity even under high pressure while adhering to stringent safety regulations and international requirements.



Chemical & Petrochemical

The chemical and petrochemical sectors present some of industry's most complex dosing challenges.

Petroleum refining concerns two major activities: the physical processes of refining crude oil into lubricating or fuel oil and the chemical conversion of feedstock into a wide range of chemicals, including:

- Synthetic fibres and other polymers
- Benzene and its derivatives
- Inorganic chemicals
- Speciality chemicals

Chemical and petrochemical applications therefore demand metering pumps that can deliver superior dosing precision alongside the capacity to handle highly-aggressive liquids such as toxic, corrosive and acidic solutions.





Oleochemicals

The oleochemicals industry – the extraction of products such as fatty acids, fatty alcohols, methyl esters, fatty amines and glycerine from animal or vegetable fats – is a valuable and sustainable alternative to chemicals from hydrocarbon oils.

Oleochemicals are used in a multitude of products, including toiletries, soaps, food additives, surfactants, detergents and biofuels. Critical processes in this sector include:

- Saponification
- Fractionation
- Transesterification
- Hydrogenation

Pumps used in oleochemical processing must contend with a number of demanding requirements, with essential features including corrosion resistance and the capacity to handle high-temperature fluids. These challenging conditions, coupled with the rapid rise of oleochemicals, mean that pumps are often required to work continuously over long periods, and with limited windows available for maintenance and servicing only the highest levels of durability are acceptable.



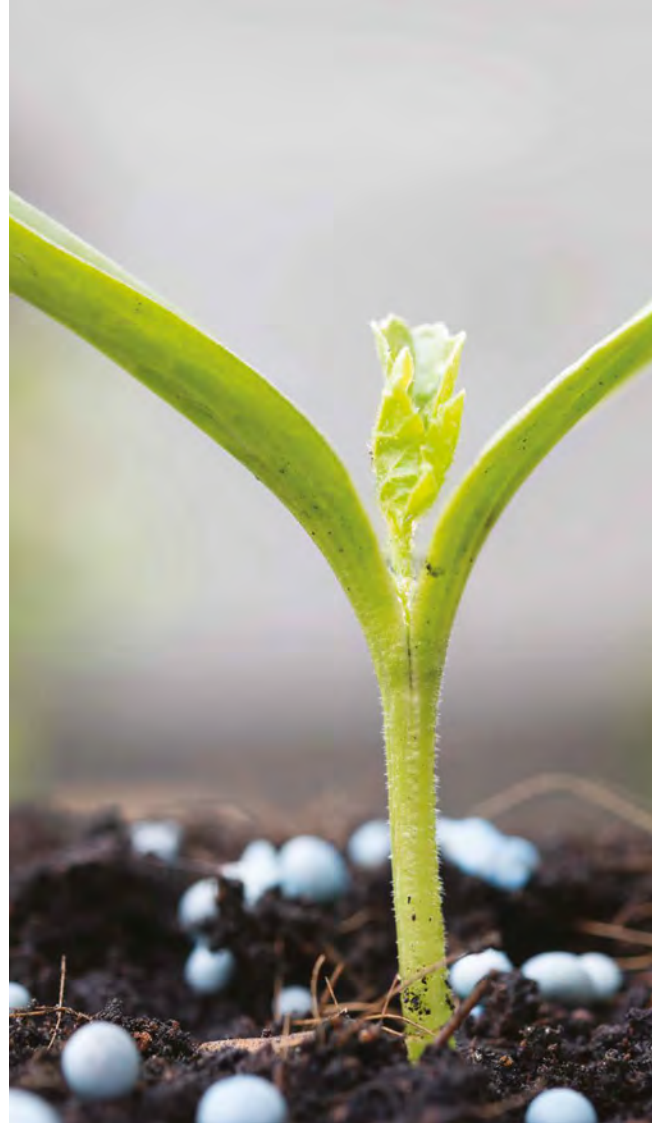
Fertilizers

Within agricultural applications, farmers face the ongoing challenge of achieving high yields, minimizing environmental impact and controlling costs when fertilizing crops.

With their high precision, range of flow rates and robustness, metering pumps enable fertilizer manufacturers to safely and sustainably produce primary and multicomponent fertilizers that can have a significant effect on yield and crop quality.

Each type of fertilizer has a different manufacturing process, but what they all have in common is that they require the handling of raw materials that can be highly abrasive and/or corrosive, causing possible damage in the production system.

Metering pumps are an essential component of any fully integrated production plant across a variety of fertilizer manufacturing processes.





Power Generation

Metering pumps are an essential aid to water treatment processes in thermal power plants, with their capacity for achieving highly-accurate dosage and flow rates making them ideal for injecting water-treatment chemicals into make-up water under pressure.

Key water-treatment processes in power generation include:

- Phosphate dosing to prevent scale formation in boiler tubes and maintain pH value to stop corrosion
- Dosing of compounds such as ferric chloride and sulphuric acid for water purification
- Metering caustic soda and detergent for CO₂ scrubbing
- Denitrification via urea and ammonia injection

Chemical metering pumps used in power plants must meet the dual demands of precision and durability in order to help operators maintain efficient running and prevent costly unplanned downtime.



Ceramics

From tiles to automotive components, the ceramics industry demands premium quality across its processes in order to minimize scrappage caused by common problems such as pinholes and contamination.

Whether pumping slip and abrasive suspensions or dosing colours and glazes, an efficient and reliable pump provides significant advantages, including:

- Preventing costly excess dosing of additives and dyes
- Extending pump life and reducing maintenance
- Improving total cost of ownership

Making the right choice at the pump selection stage is key to achieving high-quality products, minimizing waste, improving plant efficiency and reducing unplanned downtime and maintenance costs.





Desalination

In many parts of the world, seawater desalination is an essential process in the supply of potable and irrigation water. Both thermal (MSF/MED) and membrane (RO) desalination systems rely on precise and effective chemical dosing in order to prevent biofouling, scaling, foaming and corrosion.

Chemical injection pumps must deliver first-class metering accuracy for the dosing of flocculants, coagulants, chlorine and antiscalants that help deliver safe drinking water and maximize the world's most precious resource.

Thanks to advances in pump technology, operators are now able to treat large volumes of seawater at high efficiency in what was previously seen as an expensive means of water treatment.



Food & Beverage

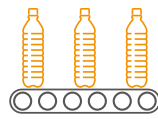
From the dosing of ingredients to the injection of stabilizers up to the treatment of process waters, pumping systems are an essential component in food and beverage production.

The number of process challenges, particularly where there are issues of acidity and high viscosity, requires robust, reliable and sustainable dosing solutions.

Product quality and safety as well as equipment efficiency in the production chain rely heavily on metering pump performance, with even a minor recipe imbalance jeopardizing consumer satisfaction and brand reputation.

Therefore, the transfer and injection of liquid ingredients and additives must be accurate, consistent and reliable, with operators also under pressure to maintain exceptional hygiene standards.





Plastic Production

Metering pumps are widely used for additive injection during manufacture of foam, insulation, protective coating, adhesives, packaging and countless other products made of polyethylene, polypropylene, polyurethane and polyamide.

Not only must the pumps used in these processes must be robust enough to withstand chemicals that may be toxic or flammable, with many plants running continuously the modern chemical dosing system must have the efficiency, flexibility and durability to:

- Provide safe operation
- Ensure the utmost accuracy when dosing catalysts and reagents
- Guarantee product quality
- Minimize wastage
- Avoid unplanned downtime



Metal & Mining Manufacture

High temperatures and continuous duty are just some of the challenging conditions faced by pumping systems in the extraction and refining of metal from the ore.

With modern steel mills producing a variety of metals, pump flexibility is a key asset, with operators increasingly seeking versatile systems to perform processes including:

- Water treatment for the pre-cooling process
- Treatment of sealing water
- Descaling of carbon steels
- Cleaning of ferrous alloys
- Tailings and wastewater treatment
- Acid injection for ore flotation





Cement Production

The dosing of additives, treatment of process water and other key applications in cement manufacture require specialist industrial pumps that can deliver a consistently-high product standard.

Process and metering pumps help operators to fulfil the requirements of cement manufacturing, where initially a slurry is pumped to blending tanks and homogenized to correct chemical composition. Other chemicals may be added during the grinding process to produce different formulae for waterproofing and corrosion-resistant cements.

Meanwhile, operators seeking to reduce their plant's environmental impact must consider the most suitable pump for the precise treatment of service water.



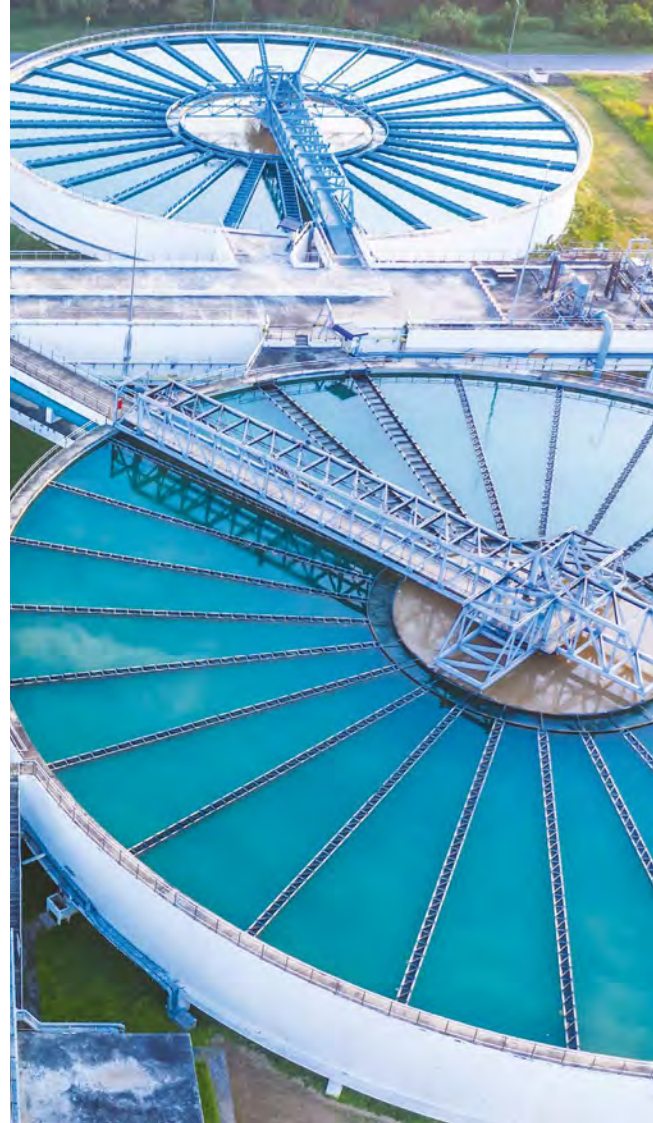
Industrial Effluent Treatment

Industrial operations invariably generate some wastewater. Proper treatment of this effluent is crucial for both environmental and economic reasons.

Industrial wastewaters may include toxic and other harmful materials, the steam condensate returning from the process as well as components that are non-biodegradable or that can reduce the efficiency of wastewater-treatment system.

According to different industrial processes, Exakta is able to handle specific treatments, offering reliable solutions for:

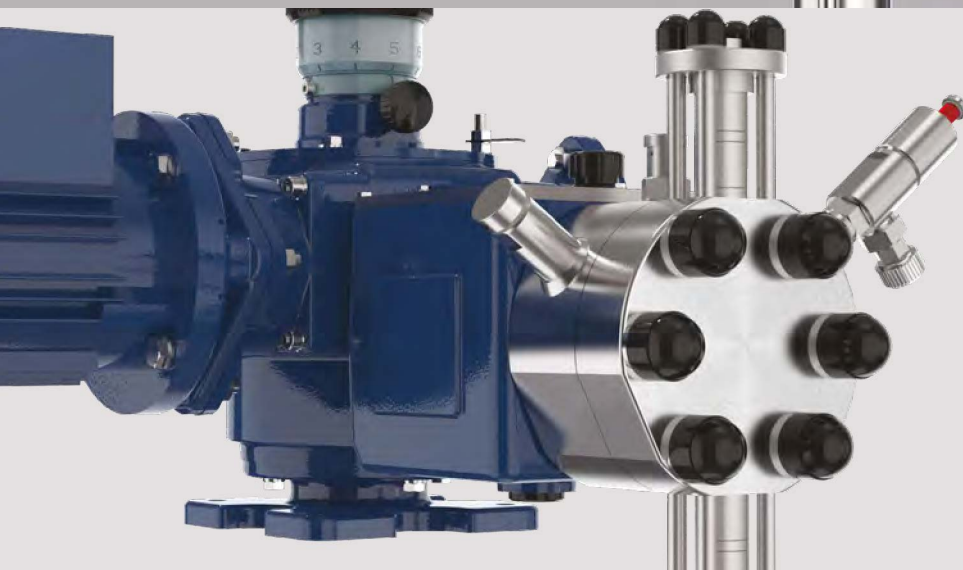
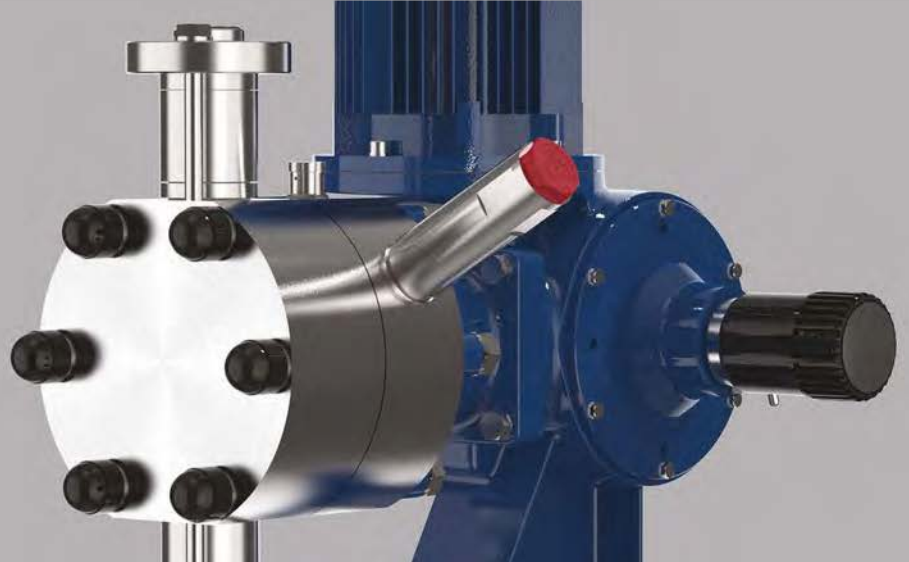
- Pre-treatment stage, where chemical composition of water is adjusted in order to preserve the unit and maximize the performance of the downstream process
- Oil separation, where oils and suspended solids are separated from water
- Chemical and physical treatments to facilitate flocculation and precipitation of solids





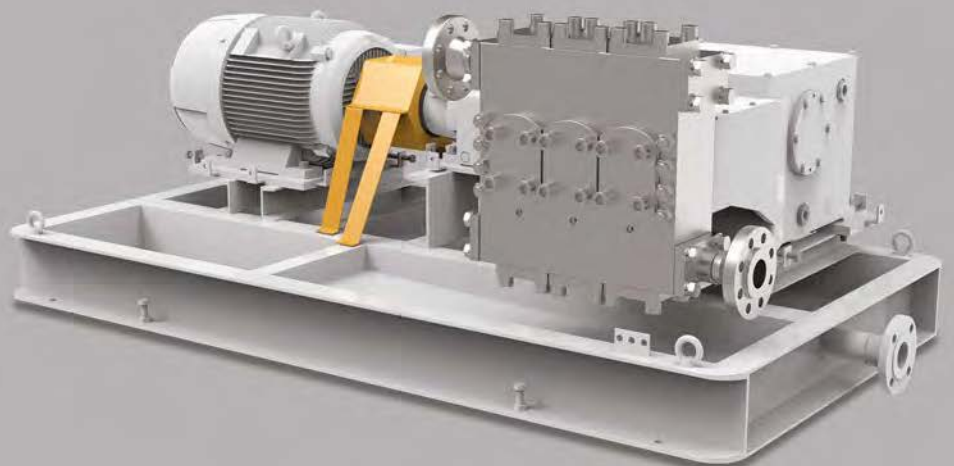
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Radix Series

Mechanical diaphragm and plunger spring return pumps



Consistent, economical and robust, the Radix series offers the ideal solution for the high-precision injection and metering of industrial chemicals in multiple application fields including water and wastewater treatment, desalination, food and beverage.

The Radix Series is available in a standard version for installation in safe areas along with an ATEX-compliant model for use in explosive environments.

Technical Features

Radix is available in both plunger and mechanical diaphragm head versions

Pressure:	up to 20 bar (higher upon request)
Flow rate:	up to 1000 l/h
Mechanical diaphragm:	PTFE
Piston:	available as standard in SS 316 or ceramic
Wetted parts:	SS 316L, PVC, PP and PVDF

Adjustable flow rate

- Manually with graduated knob
- Motor speed regulation via inverter
- Electric servomotor adjusts pump flow rate remotely

Accessories

- Safety valves
- Pulsation dampers
- Back pressure valves
- Calibration pots



Aktua

Exakta's in-house-designed electrical actuator made to automatically, remotely and proportionally adjust pump flow rate.

Features:

- Ease of installation in field
- Internal 4-digit, 7-segment display
- Manual emergency override
- 4 - 20mA signal and feedback
- IP65 ingress protection
- Calibration possible during operation

Available in both standard and ATEX versions.



Radix Series Features

Electric motor

Standard in size, shape and connection, can be three or mono phase with a protection degree of IP55. ATEX version also available

Aluminium housing

For excellent operating performance even in demanding environments



Self-standing pump

Ready-to-fit customized baseplates

Pump head combinations

Multiple combinations of pump head and motor power that allows operators the chance to select the optimal combination appropriate to the specific application

D Series

Mechanical diaphragm pumps with spring return mechanism

Flow rate:	from 5.5 - 500 l/h (1.45 - 132 gph)
Pressure:	SS 316 L version up to 10 bar (145 psi) PP/PVC/PVDF version up to 10 bar (145 psi)
Stroke rate:	from 58 - 116 strokes/min
Diaphragm:	from 65 - 165 mm
Motor powers:	standard 0.18 - 0.25 - 0.37 kW (IP55)



K1 Series

Plunger metering pumps with spring return mechanism

Flow rate:	from 1.5 - 304 l/h (0.4 - 80.4 gph)
Pressure:	SS 316 L version up to 20 bar (290 psi) PVC version up to 10 bar (145 psi)
Stroke rate:	from 58 - 116 strokes/min
Piston:	from 6 - 64 mm
Motor powers:	standard 0.18 - 0.25 kW (IP55)



K2 Series

Plunger metering pumps with spring return mechanism

Flow rate:	from 40 - 1000 l/h (10.5 - 264 gph)
Pressure:	SS 316 L version up to 20 bar (290 psi) PVC version up to 10 bar (145 psi)
Stroke rate:	from 58 - 116 strokes/min
Piston:	from 25 - 89 mm
Motor powers:	standard 0.37 - 0.55 - 0.75 kW (IP55)

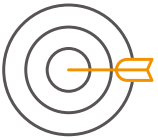


Advantages at a glance



Reliability

From flocculation in wastewater treatment to dosing stabilizers in food processing, Exakta understands that metering pump precision is essential for ensuring repeatable performance, process integrity, reduced wastage and minimized environmental impact.



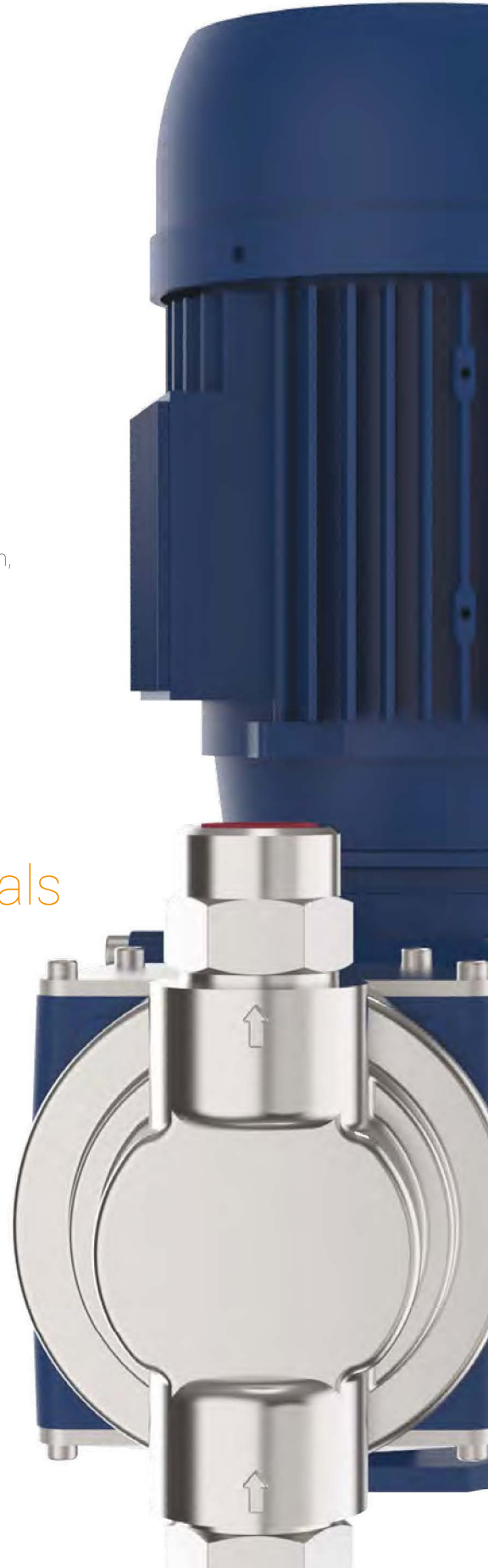
Simplicity

One of Radix's great strengths is its lean and clean design, allowing quick and easy servicing alongside reduced maintenance costs while providing compatibility with multiple applications across the heavy industrial sector.



Premium quality materials

The liquid ends are available in a variety of metal and plastic materials to accommodate a wide range of acids, bases, viscous liquids and additives while the aluminium casing make Radix suitable to demanding environments.



Industry applications



Food & Beverage

- Metering of liquid flavourings and fragrances
- Protection against the botulism bacterium
- Thickening agent and foam stabilizer
- Cleaning and disinfection of fruit and vegetables



Cement Production

- Corrosion inhibitors for pipe cleaning
- Chemical admixtures for performance improvement and properties modification of concrete



Desalination

- Regulation of water hardness and pH
- Filtration
- Flocculation
- Acidification
- Remineralisation



Industrial Effluent Treatment

- Removal of solid particles
- Adjustment of pH levels
- Odour control
- Disinfection
- Sludge treatment and removal

Nyva Series

Hydraulic diaphragm metering pumps



Delivering a high level of precision and repeatability in the metering of chemicals across a broad range of industrial processes, Nyva is the professional's choice for applications requiring reliability in even the most challenging environments.

Nyva is the professional's choice for applications requiring linear and repeatable metering precision with the benefit of an excellent price-performance ratio.



And with ATEX approval for operation in potentially-explosive environments, Nyva can safely provide accurate and consistent dosing even in the most hazardous processes.

Technical Features

Flow rate:	up to 660 l/h
Pressure:	up to 124 bar
Material of pump head:	SS 316L, PP, PVDF and PVC-U
Stroke length:	10 to 25 mm
Diaphragm diameter:	12/ 15/ 20/ 30/ 35/ 40/ 50 mm
Motor:	0.18/ 0.25/ 0.75/ 1.1/ 1.5 kW

Mechanisms

Positive return type

- Low-noise integral worm gearbox, oil bath lubricated
- Rotating parts on ball bearings to minimize wear
- High-precision linear stroke adjustment, both manual and via electrical actuator

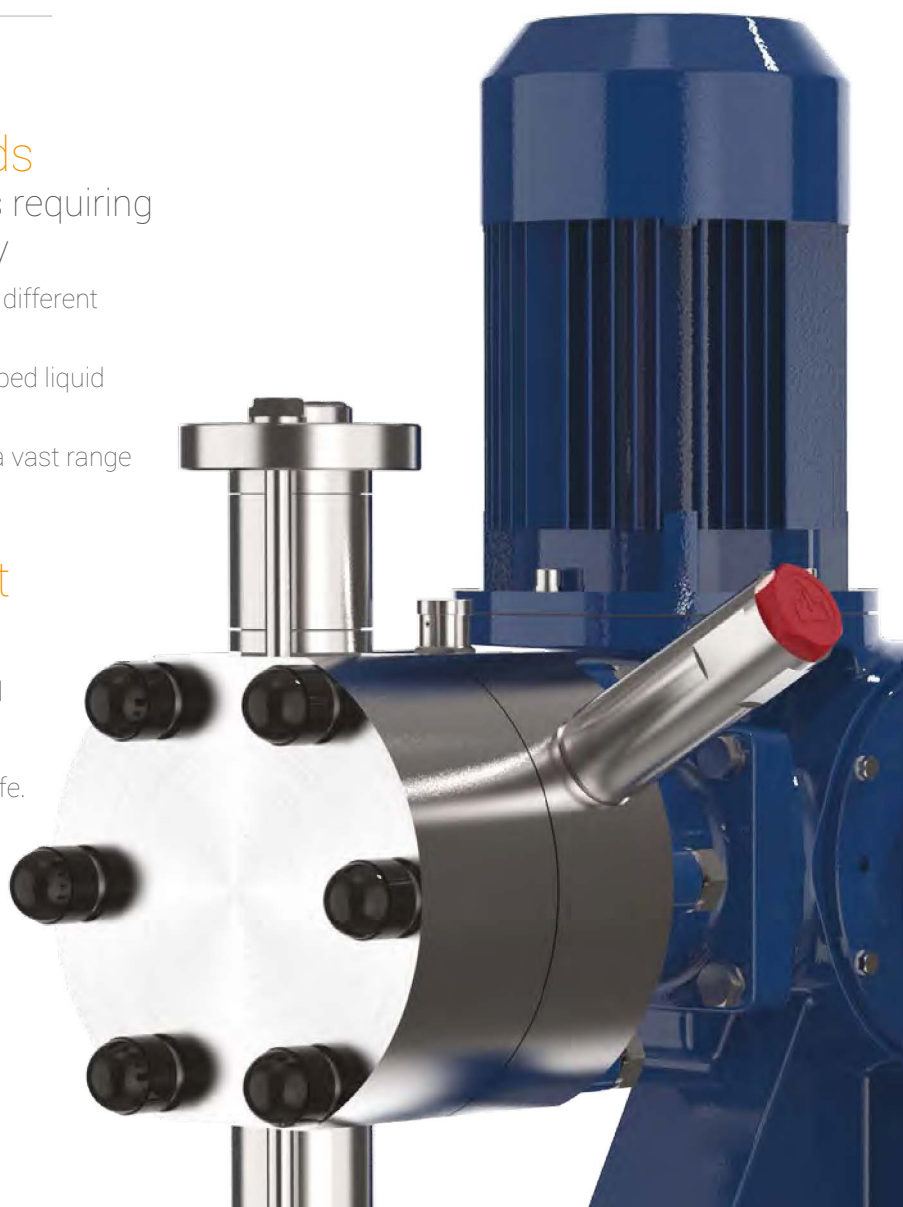
Hydraulic diaphragm heads

The ideal solution for applications requiring a high level of safety and reliability

- Wide range of wetted parts available to suit different applications
- Head-sealed design for protecting the pumped liquid against external contamination
- PTFE single diaphragm is compatible with a vast range of liquids

Mechanical replenishment system

This feature maintains a constant volume of oil in the hydraulic chamber, thereby guaranteeing maximum precision and repeatability while controlling diaphragm deformation for longer life.



Nyva Series Features

Venting system

Facilitates pump start-up with a manual action to purge the air/gas while guaranteeing automatic venting of the hydraulic chamber during operation.

Built-in relief valve

Integrated safety feature protects the pump against unexpected overpressure.

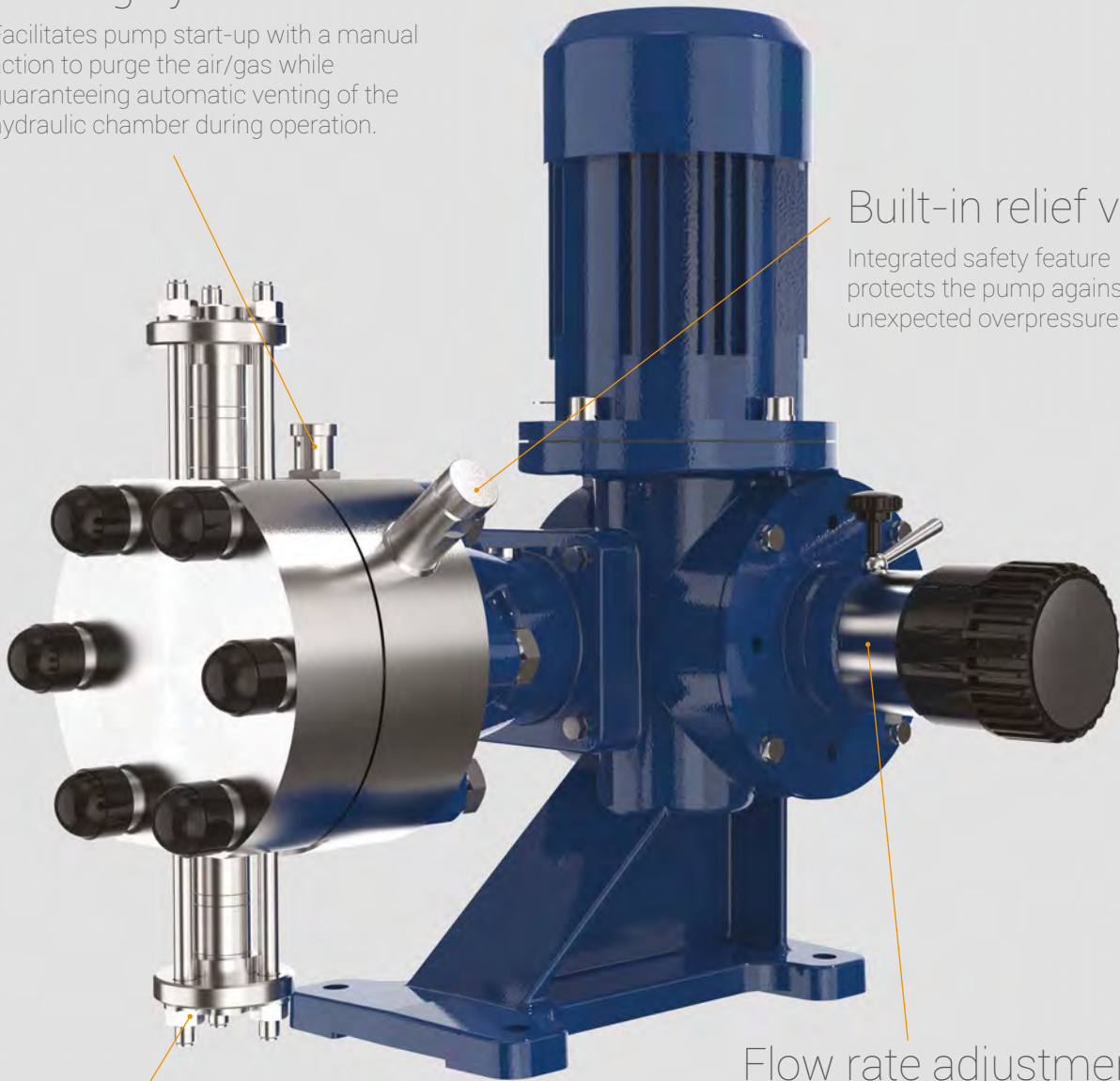
Flow rate adjustment

Performed manually or automatically via Exakta's own AKTUA actuator.

Cartridge valves

Double check valve configurations are available with machined seats.

Metal gaskets for the SS 316L stainless steel heads and FPM gaskets for those in plastic guarantee maximum chemical compatibility.



Nyva CB0

Hydraulic Single Diaphragm

Flow rate:	from 3.4 to 97.4 l/h @ 50Hz
Pressure:	up to 12.4 MPa (124 bar) for 316L version
Stroke rate:	from 70 to 186 strokes/min
Fluid operating temperature:	-5°C to 50°C
Viscosity:	up to 500 mPa·s (500 cP)
Liquid end material:	PP, PVDF, 316SS, PVC-U



Nyva CB1

Hydraulic Single Diaphragm

Flow rate:	from 18 to 660 l/h @ 50Hz
Pressure:	up to 12.4 MPa (124 bar) for 316L version
Stroke rate:	from 63 to 235 strokes/min
Fluid operating temperature:	-5°C to 50°C
Viscosity:	up to 200 mPa·s (200 cP)
Liquid end material:	PP, PVDF, 316SS, PVC-U



Accessories

- Calibration pots
- Pulsation dampers
- Safety valves
- Back pressure valves

Advantages at a glance



Precision

Decades of experience have combined to produce Nyva, with its refined design the result of experience combined with premium materials and discerning manufacturing standards.

The result is a pump that delivers metering precision and consistency for repeatable results and efficient chemical consumption.

Reliability

Nyva's ATEX-approved design and zero-leakage profile provide operators with reassurance that their pump won't let them down, invaluable in continuous-running processes where costly unplanned downtime is not an option.



Versatility

The adjustable flow rate of Nyva allows smooth execution control while a choice of wetted parts along with PTFE diaphragm ensure broad chemical compatibility for various applications. The intuitive set-up allows quick installation, easy overhauls and spare parts replacement.

Industry Applications



Power generation

- Phosphate dosing to prevent scale formation in boiler tubes
- Oxygen and ammonia scavenger to maintain pH value and prevent corrosion
- Amine dosing to neutralize the carbonic acid present in the condensate



Food & Beverage

- Protection against the botulism bacterium
- Thickening agent and foam stabilizer
- Cleaning and disinfection of fruit and vegetables



Desalination

- Regulation of water hardness and pH
- Filtration
- Flocculation
- Acidification
- Remineralisation



Industrial Effluent Treatment

- Removal of solid particles
- Adjustment of pH levels
- Odour control
- Disinfection
- Sludge treatment and removal

Nexa Series

Double-diaphragm and packed plunger pumps with full-motion mechanisms



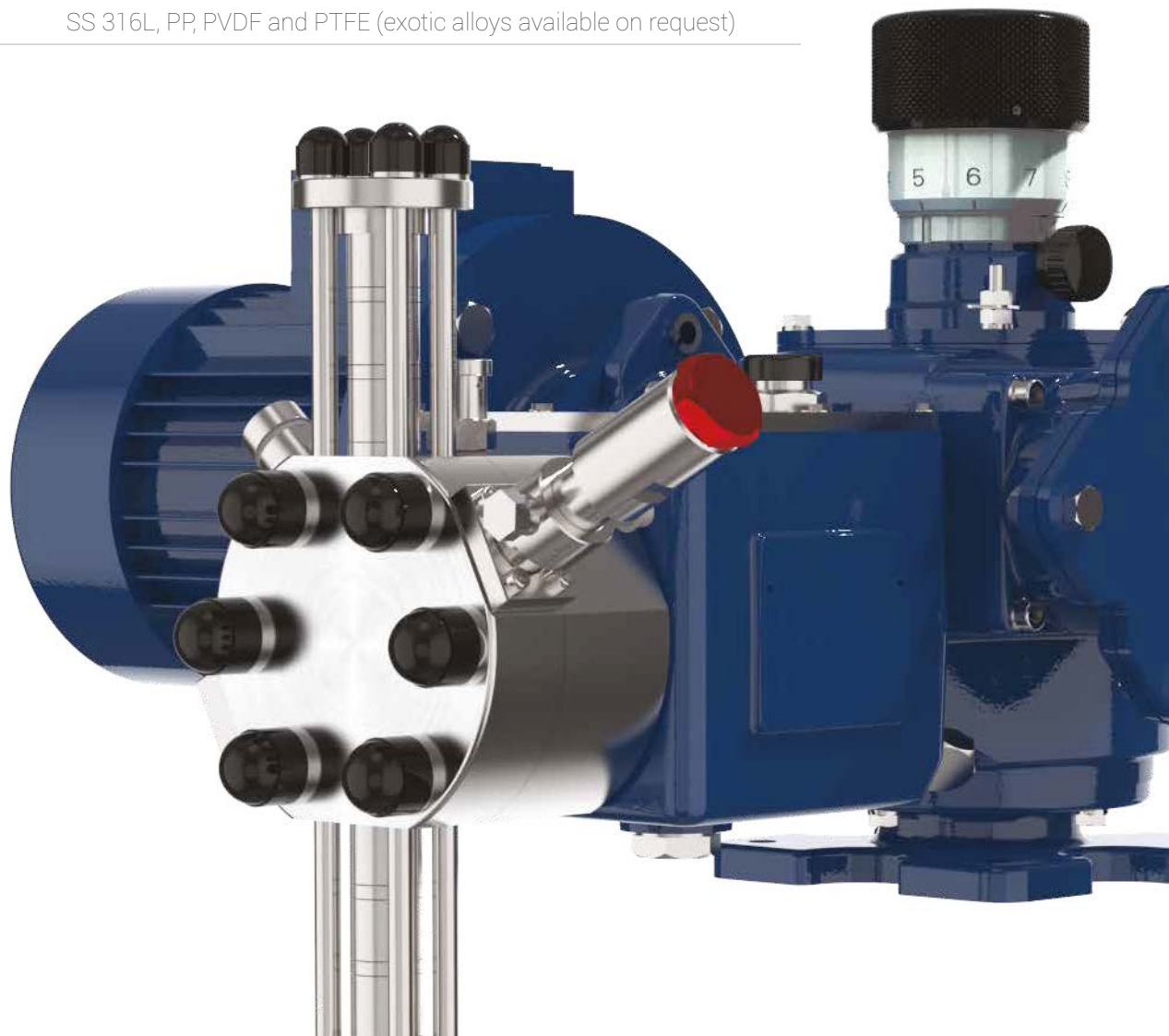
Capable of superior performance in even the most severe operating conditions, the Nexa Series packed-plunger and hydraulic double-diaphragm metering pumps represent one of heavy industry's most versatile, robust and reliable fluid metering and dosing solutions.

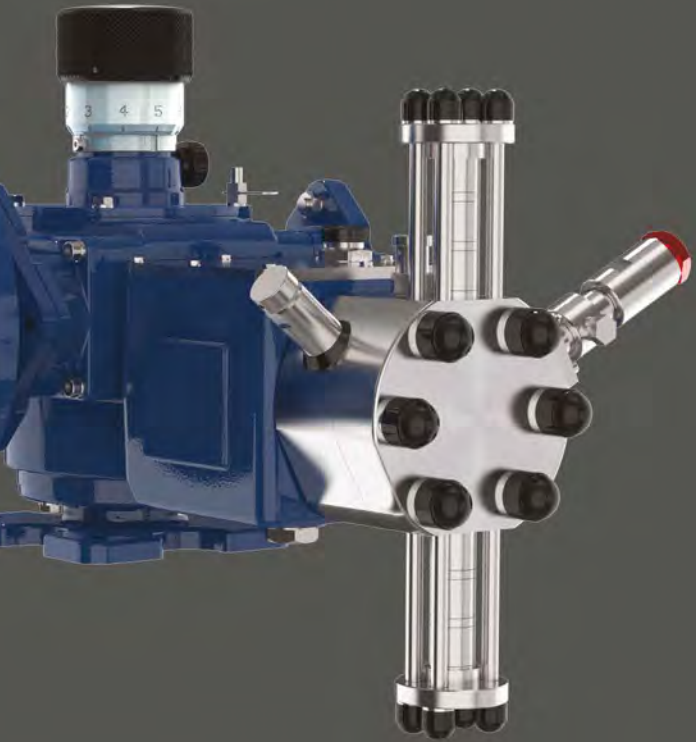
Nexa's exceptional build quality enables stable dosing even under extreme operating pressures and temperatures, from wellhead chemical injection in oil and gas applications to pyrophoric liquids handling in chemical compounds manufacturing.

Designed to meet API 675 3rd edition standard and compliant to Norsok M-501 & M-630, NACE 0175, ATEX2014/34/EU, TR CU 004-010-020-012/2011 and Shell DEP (various), Nexa can be safely operated in hazardous processes, reassuring operators of the pump's suitability regardless of the application.

Technical Features

Pressure:	up to 350 barg for hydraulic diaphragm and 650 for packed plunger
Flow rate:	up to 7,800 l/h with a single head
Fluid temperature:	from -10°C to 90°C (from -40°C to 150°C on request)
Wetted parts:	SS 316L, PP, PVDF and PTFE (exotic alloys available on request)

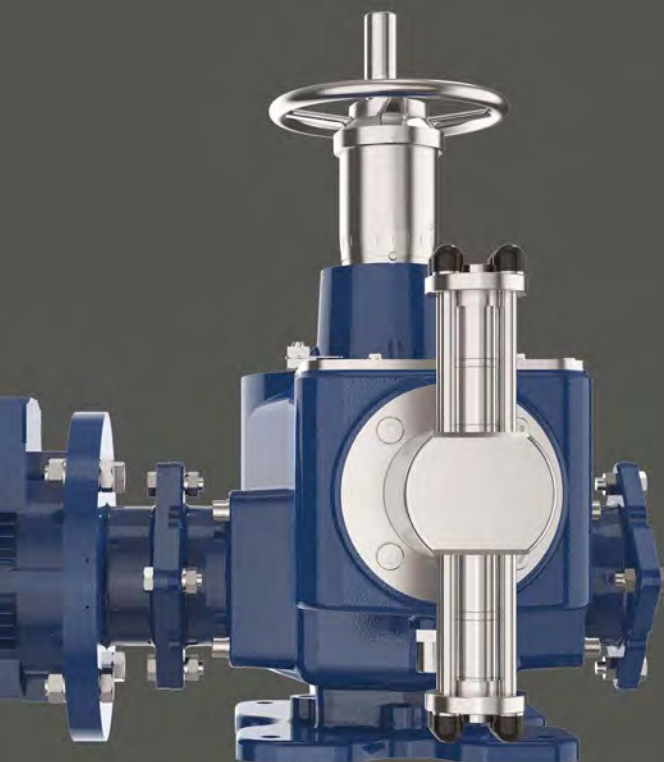




Hydraulic double-diaphragm heads version

A trustworthy solution for applications requiring the highest levels of operational accuracy and reliability. Features include:

- Hydraulic oil-operated diaphragms
- Double oil for hydraulics and mechanism lubrication ensuring 100% chemical tightness and operational safety for higher reliability, dosing accuracy and application flexibility
- Sealed design for metering hazardous fluids such as toxic or corrosive solutions
- Protection against external contamination
- Preformed PTFE diaphragms as standard, for an excellent chemical compatibility and increased compactness allowing an outstanding level of efficiency
- Diaphragm rupture detector available in multiple options:
 - Exakta standard local visual,
 - Local visual via pressure gauge,
 - Pressure switch (any make, model or case material and signal type: analogue 4 – 20 mA, digital, HART protocol)
 - Pressure transmitter (any make, case material and signal type: analogue 4 – 20 mA, digital, HART protocol)
- Mechanical replenishment system maintains a constant level of the hydraulic fluid, thereby guaranteeing maximum precision and repeatability and enabling diaphragms deformation control for extended life
- Standard wetted parts include 316L stainless steel, PP and PVDF, with other materials available upon request



Packed-plunger heads version

The simplest and most suitable solution for dosing and transferring non-hazardous liquids, PN and KN plunger heads boast special features that offer superior performance.

- Plunger available with Stellite or ceramic coating and precise surface finish for increased resistance and longer working life
- Perfect alignment of the plunger in the seal
- Adjustable seal for leakage recovery

Mechanism

Full-motion type in six different sizes, featuring:

- Oil-bath lubrication
- Low-noise internal worm gearbox
- High-precision stroke adjustment for ultrafine volume control
- Increased turndown ratio achievable via frequency converter
- Housing available in cast iron as standard and nodular cast iron to cope with harsh ambient conditions
- Exakta-designed electrical and pneumatic actuators available

Valves

Exakta is committed to developing flexible and customized valve configurations with flow channels specifically designed to improve hydraulic efficiency while coping with different conditions and applications.



SEAM Cone Valve

Thanks to additive manufacturing technology, delivers high performance with SS 3D printing while allowing endless shape possibilities to meet unique in-valve fluid dynamics for every application.

Features

- Lower NPSH required (up to 10%)
- Increased volumetric efficiency (3%)
- 30% lighter than conventional machined valves
- Enhanced durability for longer mean time between repair

Nexa Series Features

Stroke adjustment

Flow rate variation is by adjustment from 0 to 100% of the plunger stroke length. Stroke adjustment can be achieved, both manually and automatically.



Flexible motor installation

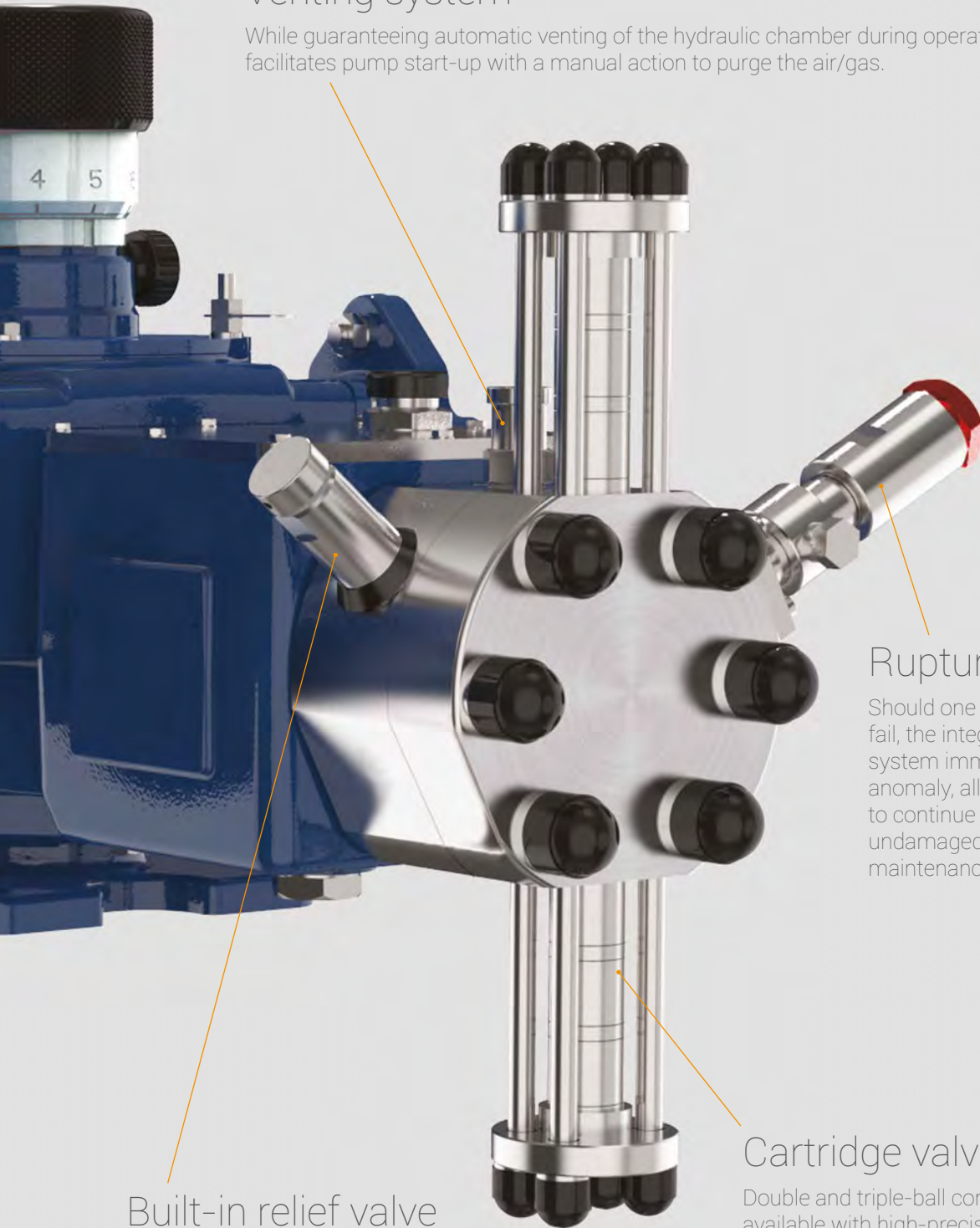
The driving motor can be fitted horizontally (either side) or vertically. Motor can be also supplied suitable for variable speed drive and on demand with relevant inverters and filters.

Bespoke base plate design

Pumps are provided with API 675 standard or customized base plate, designed according to customer and application requirements.

Venting system

While guaranteeing automatic venting of the hydraulic chamber during operation, this system also facilitates pump start-up with a manual action to purge the air/gas.



Rupture detector

Should one of the two diaphragms fail, the integrated protection system immediately signals the anomaly, allowing the pump to continue functioning on the undamaged diaphragm until maintenance can be scheduled.

Cartridge valves

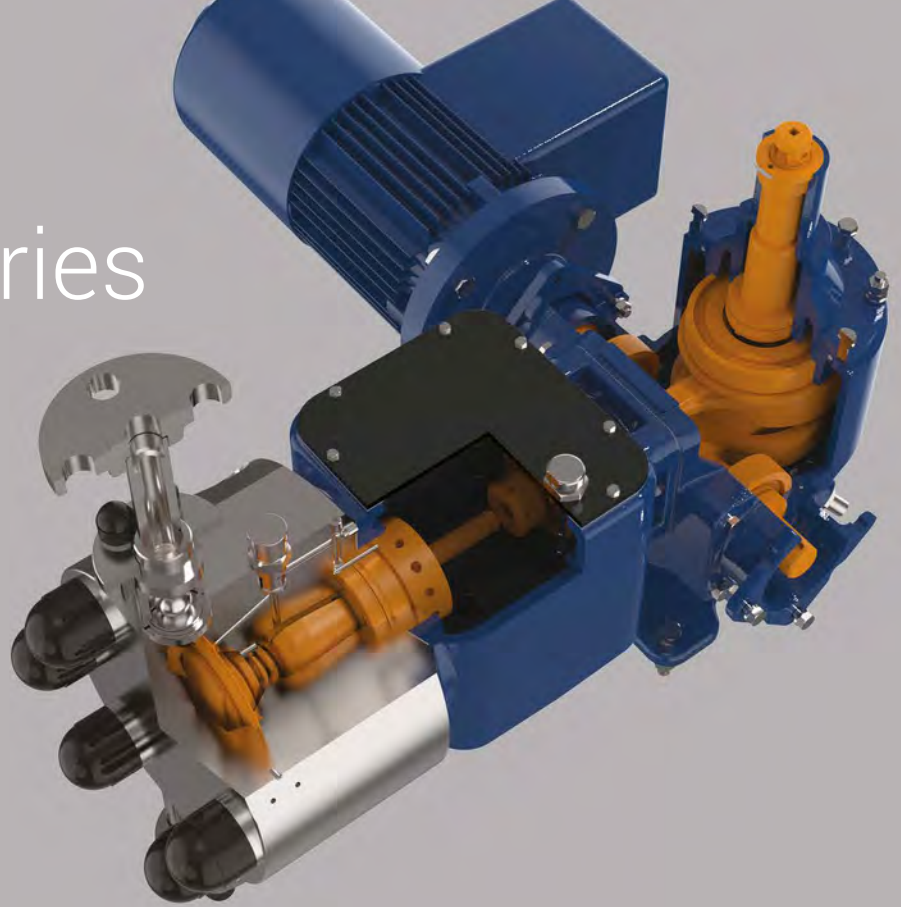
Double and triple-ball configurations are available with high-precision seats and can be replaced with minimum downtime. The metal gaskets for SS 316L heads, and the FPM gaskets for those in plastic, guarantee maximum fluid compatibility.

Built-in relief valve

Protects the double-diaphragm pump against unexpected overpressure

Nexa XP Series

Exakta's broad experience in supporting customers throughout the most challenging projects has led to the development of Nexa XP, a special version of Nexa able to cope with extreme suction conditions and a wide range of chemicals.



Nexa XP complies with the most stringent requirements in terms of strength and reliability, ensuring:

- Minimized internal stresses thanks to the FEM-designed hydraulic diaphragm
- Compatibility with dangerous, toxic, flammable and pyrophoric chemicals
- Best-in-class NPIP required (down to 0.1 bar)
- Highest admissible suction pressure (200 barg)

XP Type - Max pressure 200 barg

Head Size	Flow Rate Max [l/h]	Fluid Temperature [°C]	NPIP [barg]	Suction Pressure [barg]
A	2.45	-10 / 150	-0.6	200
B	15.2	-10 / 150	-0.8	200
C	27	-10 / 150	-0.8	200
C	71	-10 / 150	-0.7	130
D1	190	-10 / 150	-0.7	59
D2	545	-10 / 150	-0.8	21

These are limit values, please state actual conditions with enquiry.

Nexa XP is the ideal metering solution for fluids with high vapour pressure requiring greater operational safety.

Hydraulic double-diaphragm heads

Technical information



B Type - Max pressure 450 barg

Head Size	Flow Rate Max [l/h]	Fluid Temperature [°C]	Viscosity [cPs]	Material
AH	0.7	-10 / 70	500	316L SS
B2	14	-10 / 70	500	316L SS
C2	103	-10 / 70	500	316L SS

H Type - Max pressure 200 barg

Head Size	Flow Rate Max [l/h]	Fluid Temperature [°C]	Viscosity [cPs]	Material
A	2.45	-10 / 130	1000	316L SS
B	17	-10 / 130	1000	316L SS
C	93	-10 / 130	1000	316L SS
C (LT)	93	-40 / 70	1000	316L SS
D1	81	-10 / 130	500	316L SS
D2	377	-10 / 130	500	316L SS
E2	612	-10 / 130	500	316L SS
D2	510	-10 / 130	500	316L SS
E2	1068	-10 / 130	500	316L SS

T Type - Max pressure 120 barg

Head Size	Flow Rate Max [l/h]	Fluid Temperature [°C]	Viscosity [cPs]	Material
B	9.84	-10 / 130	1000	316L SS
C	80	-10 / 130	1000	316L SS
C (LT)	80	-40 / 70	1000	316L SS
D1	163	-10 / 130	1000	316L SS
D2	299	-10 / 130	500	316L SS
E2	1652	-10 / 130	500	316L SS

These are limit values, please state actual conditions with enquiry.

Y Type - Max pressure 40 barg

Head Size	Flow Rate Max [l/h]	Fluid Temperature [°C]	Viscosity [cPs]	Material
B	33	-10 / 130	1000	316L SS
D	274	-10 / 130	1000	316L SS
E1	709	-10 / 130	1000	316L SS
E1	1015	-10 / 130	500	316L SS
G	3891	-10 / 130	500	316L SS
H	6883	-10 / 130	500	316L SS
I	9370	-10 / 130	500	316L SS

Y Type - Max pressure 20 barg for plastic head

Head Size	Flow Rate Max [l/h]	Fluid Temperature [°C]	Viscosity [cPs]	Material
C	74	-5 / 50	1000	PP-PVDF
D	545	-5 / 50	1000	PP-PVDF
E1	863	-5 / 50	1000	PP-PVDF

Plunger heads

Technical information



K Type - Max pressure 650 barg

Plunger [mm]	Flow Rate Max [l/h]	Fluid Temperature [°C]	Viscosity [cPs]	Material
10	4.76	-10 / 150	1000	316L SS
15	38	-10 / 150	1000	316L SS
20	68	-10 / 150	1000	316L SS
25	152	-10 / 150	1000	316L SS
40	673	-10 / 150	1000	316L SS

P Type - Max pressure 40 barg

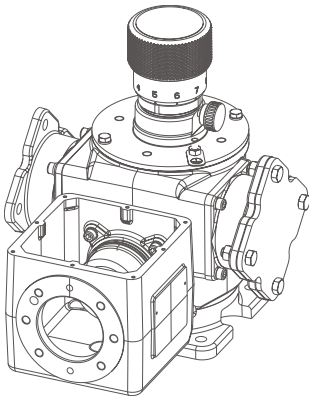
Plunger [mm]	Flow Rate Max [l/h]	Fluid Temperature [°C]	Viscosity [cPs]	Material
25	153	-10 / 150	1000	316L SS
40	673	-10 / 150	1000	316L SS
50	1078	-10 / 150	1000	316L SS
60	1588	-10 / 150	1000	316L SS
75	2690	-10 / 150	1000	316L SS
95	4110	-10 / 150	1000	316L SS
110	5788	-10 / 150	1000	316L SS
130	7760	-10 / 150	1000	316L SS

These are limit values, please state actual conditions with enquiry.

Nexa Mechanism

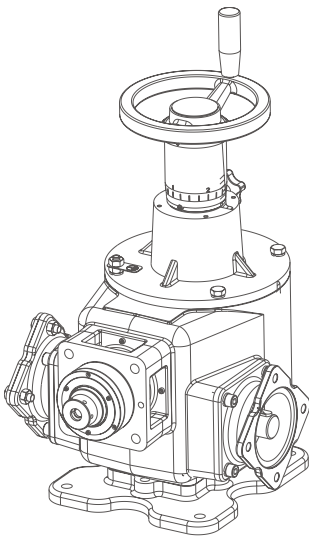
Technical information

Mechanism available in six different sizes to ensure maximum reliability and best performances.



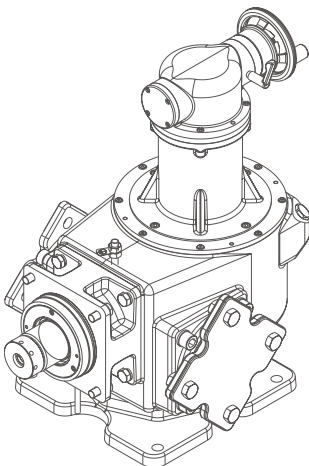
N0, N1 Mechanisms

Size	Stroke Length [mm]	Plunger Diameter Range [mm]	Thrust [kN]	Hydraulic Power [kW]
N0	10	4 - 50	2	0.1
N1	25	6 - 90	5	0.4



N2 Mechanism

Size	Stroke Length [mm]	Plunger Diameter Range [mm]	Thrust [kN]	Hydraulic Power [kW]
N2	35	10 - 120	8	1



N3, N4, N5 Mechanisms

Size	Stroke Length [mm]	Plunger Diameter Range [mm]	Thrust [kN]	Hydraulic Power [kW]
N3	50	15 - 130	18	3
N4	70	30 - 130	30	5
N5	70	35 - 140	45	6.5

These are limit values, please state actual conditions with enquiry.

Advantages at a glance



Flexibility

The superior versatility of Nexa pump drive unit allows motors to be mounted left-sided, right-sided or even vertically depending on the installation requirements.

Nexa also allows different-sized mechanisms to be coupled, with casings designed to maintain the same foot level in order to allow installation on a flat support base.

An internal gearbox allows pumps with different stroke adjustment to be combined to form multi-head units for greater flexibility.



Customization

With Exakta's tailor-made manufacturing approach, customers can personalize their Nexa series pump with multiple drive units combination, hydraulic configurations, piping connections, suction and discharge solutions and accessories to withstand temperature extremes, aggressive chemicals and difficult suction conditions encountered in challenging applications.



Modularity

All Nexa mechanisms, regardless of size, can be easily combined to form larger metering units with significant construction advantages, simplifying assembly and installation.

Mechanisms are coupled together using joints with no exposed parts, resulting in a compact unit with a strong and perfectly-aligned connection which removes the need for a special base.

As process demands for changes in process conditions, users can quickly and easily add a pump to an existing system by performing a few simple coupling operations, even on site.

Industry applications



Oil & Gas

- Wax inhibitors, pour point depressants, asphaltene inhibitors, scale inhibitors injection to prevent equipment blockage
- Corrosion inhibitors, oxygen scavenger, biocides, demulsifiers, foam inhibitors metering to extend the lifetime of pipelines and process equipment
- Dosing of antifoams, de-oilers, demulsifiers, nitrate inhibitors, sodium hypochlorite to eliminate the water-bearing formations of crude oil and natural gas
- Methanol, MEG/TEG injection to remove control the hydrates formation to prevent clogging and choking in flow lines
- Drag-reducing agents and polymers metering to reduce the downhole pressure loss during the fluid pumping



Chemical & Petrochemical

- Caustic soda, organic sulphur injection to reduce refinery column-overhead hydrochloric acid corrosion
- Sour water for stripper column
- Organic chloride, dimethyl disulfide, ammonia, antifoam, odorizing agents, for crude oil separation and conversion for further use
- Wash water and condensate disposal and transfer
- Pyrophoric liquids for chemicals production



Oleochemicals

- Fatty acid production and processing for cosmetics, lotions and softeners production
- Conversion of fatty acid to biodiesel
- Glycerine processing for concentrated flavour extracts, texture improver and emulsifiers



Fertilizers

- Metering of nitric acid and ammonia for the production of nitrogenous fertilizers
- Injection of sulphuric acid for the production of phosphorous fertilizer
- Urea production
- Multi-compound fertilizers production



Plastics

- Antioxidants for plastic processing where weathering resistance is needed
- Colourants for coloured plastic parts
- Foaming agents for expanded polystyrene and polyurethane
- Lubricants injection to avoid plastic sticking to the mould
- Antimicrobials injection to provide a biocide treatment to control germs or fungi.



Power Generation

- Phosphate dosing to prevent scale formation in boiler tubes
- Oxygen scavenger to prevent corrosion
- Amine dosing to neutralize the carbonic acid present in the condensate
- pH control through ammonia injection
- Biocide for bacteria prevention in boilers tubes

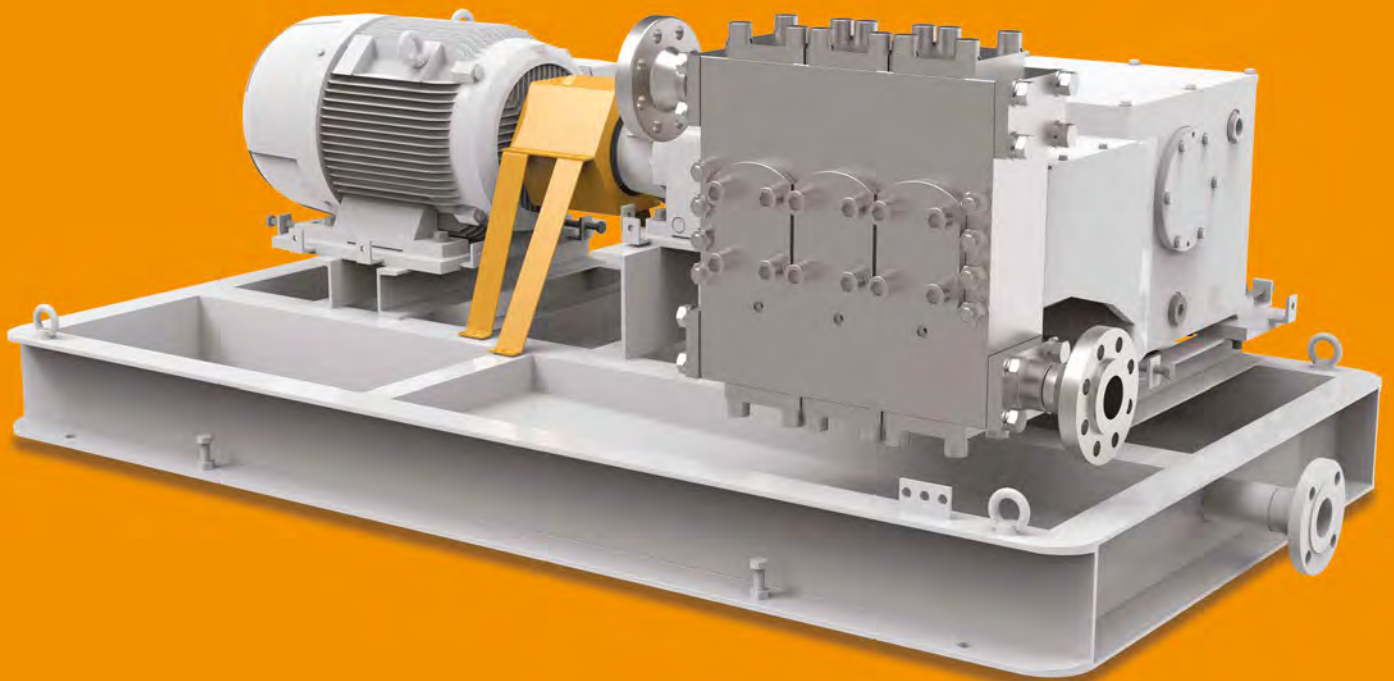


Food & Beverage

- Liquid flavourings and fragrances
- Icing and syrups
- Thickening agent and foam stabilizer
- Cleaning and disinfection of fruit and vegetables
- Protection additives against the botulism bacterium

3C Triplex Pumps Series

Process pumps for high-pressure duties



A flexible, robust and reliable solution to pumping high-temperature, abrasive and viscous liquids in a multitude of industrial applications, the 3C Triplex pump series offers the best total cost of ownership available on the market.

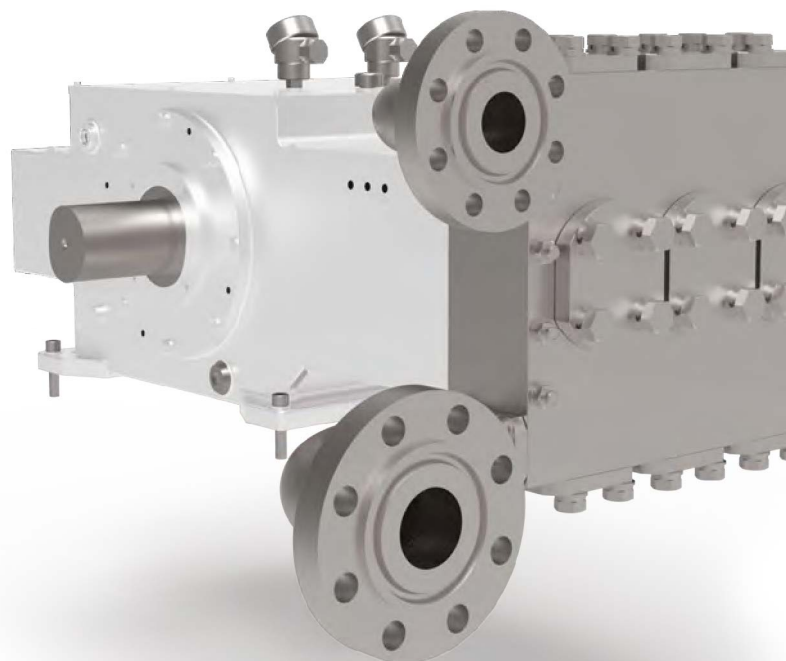
3C Triplex pumps are designed in accordance with API 674 standards and can be customized to achieve special operating requirements, allowing the customer to build the ideal system for the unique demands of their application.

Technical Features

Capacity range:	up to 65000 l/h, up to 1150 bar
Wetted parts:	SS 316 L, LTCS, Super Duplex, different material (on request)
Flow rate adjustment:	by frequency converter
Compliance:	with international standard approvals as API 674, ASME, TR CU 012/2011

Pump heads

- Wetted parts: 316L or 304 stainless steel, duplex steel or carbon steel (exotic alloys available upon request)
- The three-cylinder pump head is horizontally arranged, with single-acting plungers and valves and seats that can be selected among different executions depending on the handled fluid
- Plungers and packing are easily maintained, with replacement of components for most pump sizes possible without disconnecting the pump from the pipework
- Optional "leakage return to suction" and flushing of stuffing box guarantee a virtually leakage free process and for a longer packing life



Mechanism

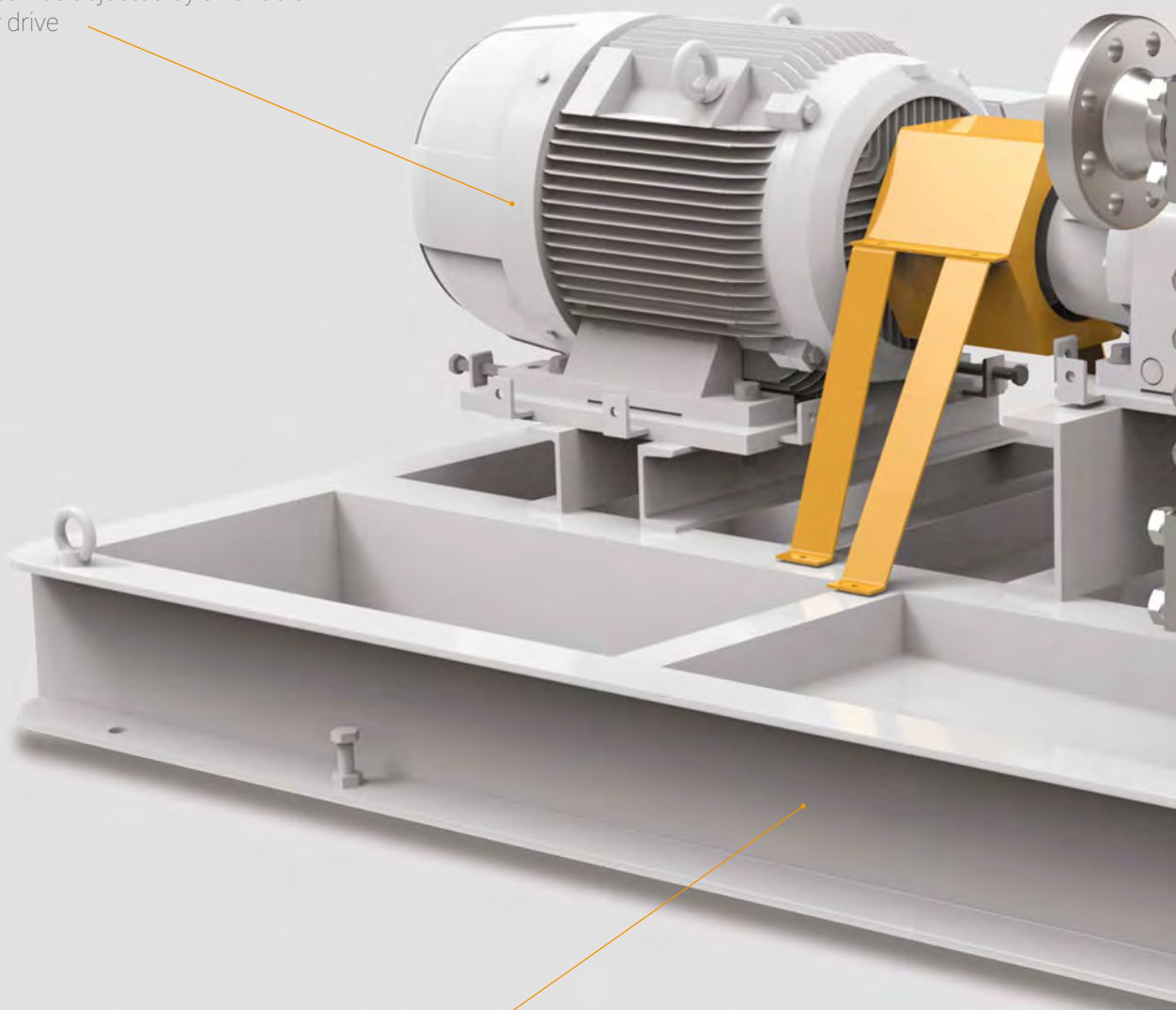
The unique design of the 3C Triplex mechanism allows the pump to operate at a very low speed without forced lubrication, making it ideal for applications requiring a slow plunger motion to avoid cavitation when pumping hot or viscous liquids or fluids with high vapour pressure. The range features:

- Silent and vibration-free operation due to proper mass balancing and sizing. The integral crankshaft and crossheads are supported at both ends, giving precise alignment of the plunger rods for a longer sealing life
- A compact and robust assembly, providing high performance within a minimal footprint
- Low-speed operation, resulting in reduced wear of moving parts and high reliability

Triplex Series Features

Variable speed drive

Capacity can be adjusted by a variable frequency drive



Lower weight-to-performance ratio

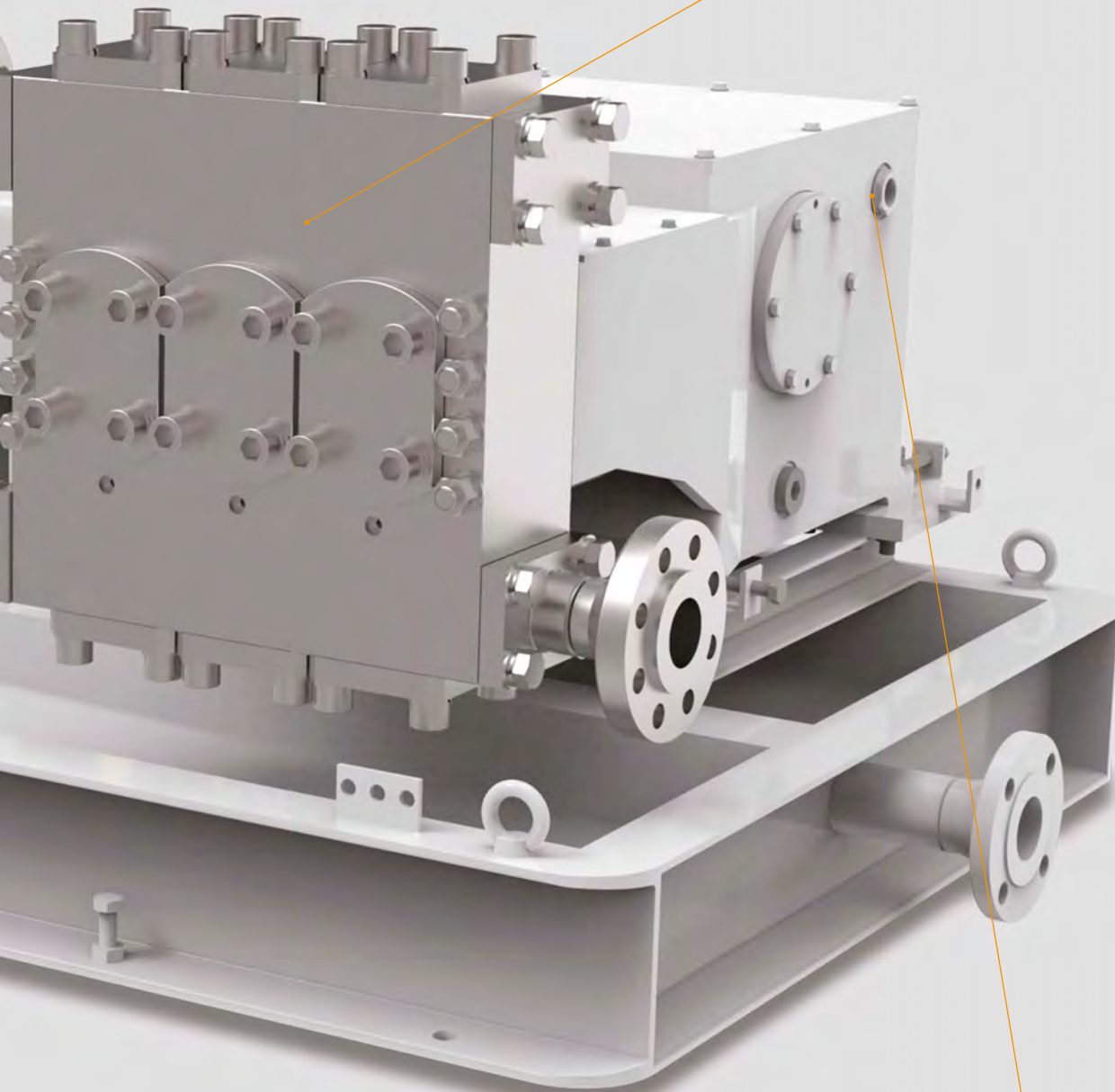
Simple set up and lightweight baseplate structure, designed in accordance with API standards or customized upon request, ideal also for offshore topside installations.

Accessories

- Pulsation dampers
- Safety valves

Unique head design optimized for simple maintenance

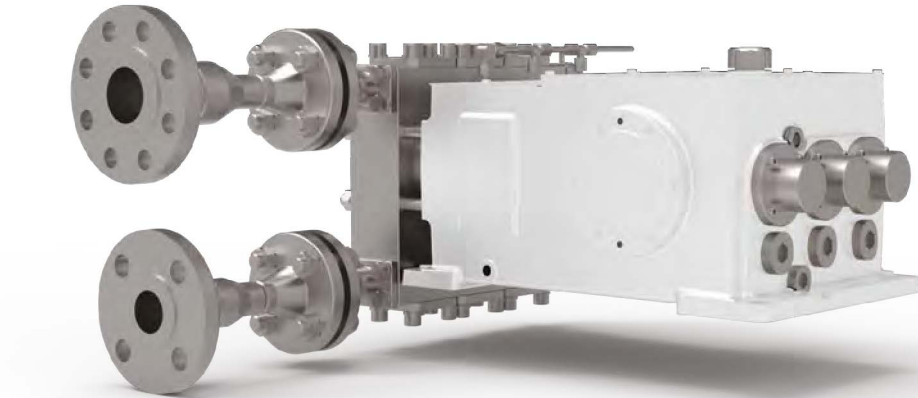
Allowing extended packing life, increased productivity, reduced downtime and lower maintenance costs



Integral lubrication system

Ensuring high reliability, reduced maintenance, small footprint and simple installation and commissioning

3C 30



Plunger Diameter [mm]	Pressure Max [barg]	Flow Rate Max [m³/h]
10	1146	0.21
15	509	0.46
20	286	0.82
25	183	1.28
30	127	1.85
35	94	2.52
40	72	3.29
45	57	4.16
50	46	5.14

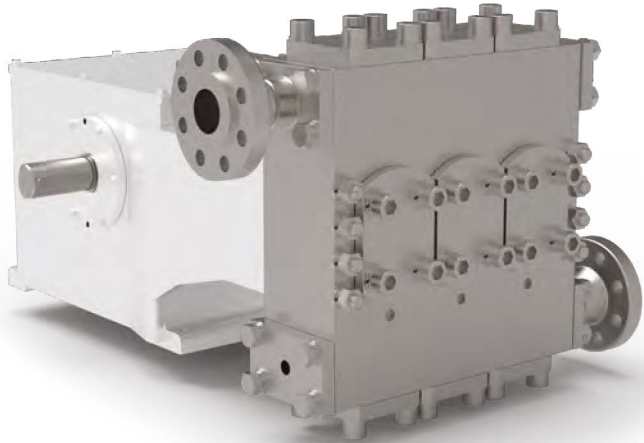
Fluid Temperature [°C] -10 / 200

Stroke Length [mm] 30

Thrust Max [kN] 9

Motor Power Range (kW) 2.2 - 15

3C 55



Plunger Diameter [mm]	Pressure Max [barg]	Flow Rate Max [m³/h]
20	477	1.18
25	306	1.85
30	212	2.66
35	156	3.62
40	119	4.73
45	94	5.98
50	76	7.39
55	63	8.94
60	53	10.64
65	45	12.48
70	39	14.48

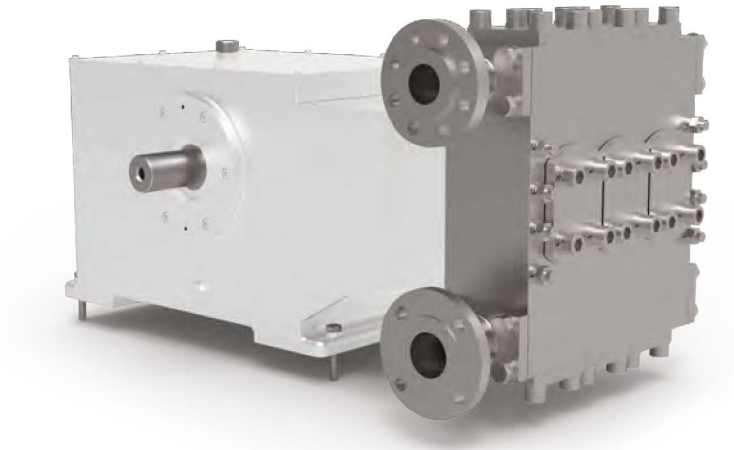
Fluid Temperature [°C] -10 / 200

Stroke Length [mm] 55

Thrust Max [kN] 15

Motor Power Range (kW) 5.5 - 30

3C 80



Plunger Diameter [mm]	Pressure Max [barg]	Flow Rate Max [m ³ /H]
25	530	2.01
30	368	2.90
35	270	3.95
40	207	5.16
45	163	6.53
50	132	8.06
55	109	9.75
60	92	11.60
65	78	13.62
70	68	15.79
75	59	18.13
80	52	20.63

Fluid Temperature [°C]	-10 / 200
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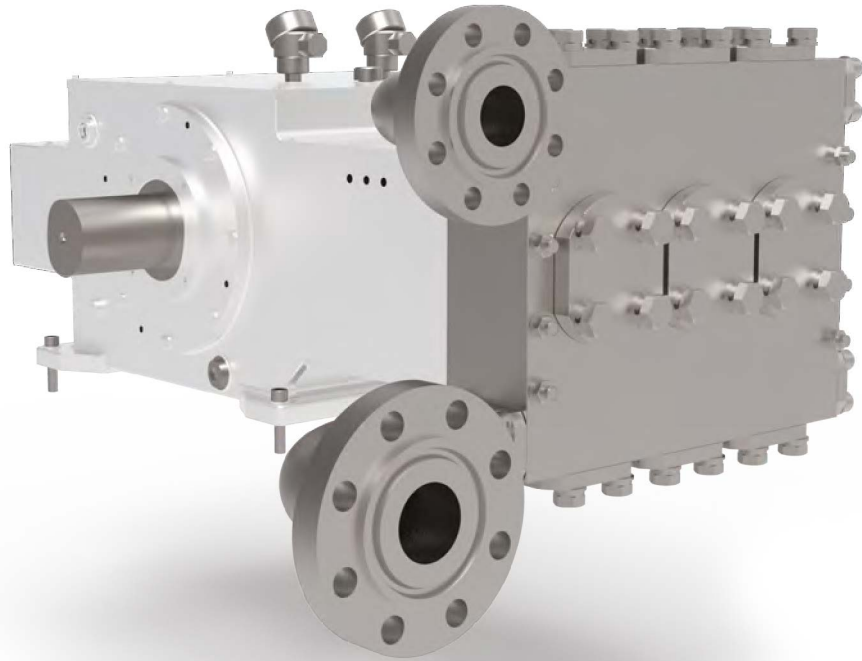
Stroke Length [mm]	80
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Thrust Max [kN]	26
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Motor Power Range (kW)	9.2 - 55
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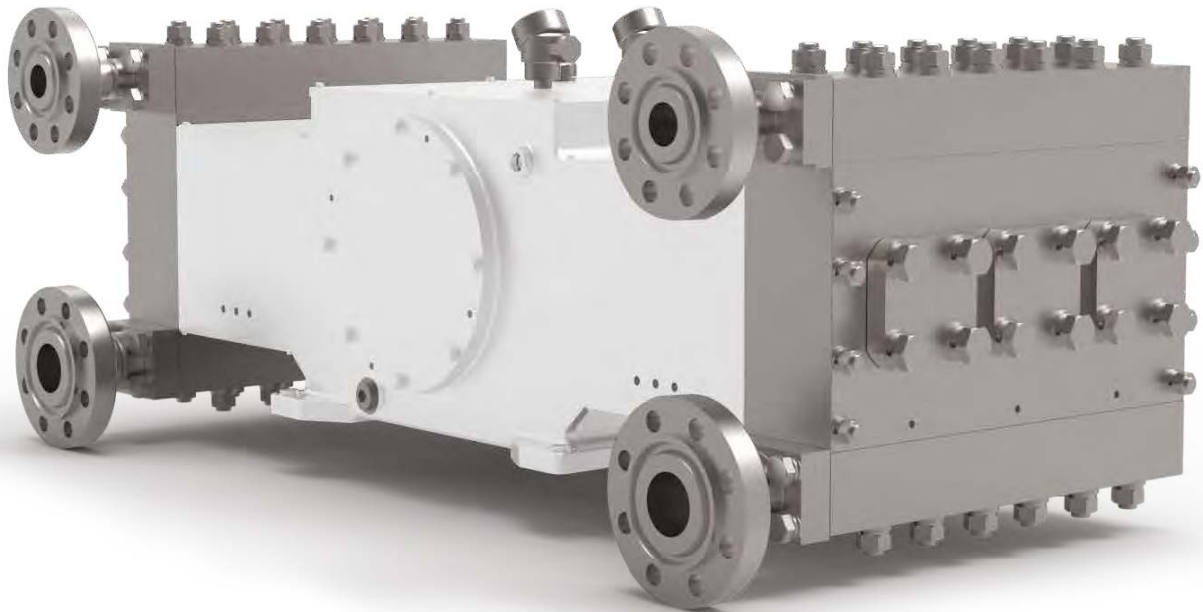
These are limit values, please state actual conditions with enquiry.

3C 120



Plunger Diameter [mm]	Pressure Max [barg]	Flow Rate Max [m³/h]	Fluid Temperature [°C]	-10 / 200
30	722	3.05	Stroke Length [mm]	120
35	530	4.15	Thrust Max [kN]	51
40	406	5.42	Motor Power Range (kW)	37 - 100
45	321	6.85		
50	260	8.46		
55	215	10.24		
60	180	12.18		
65	154	14.30		
70	133	16.58		
75	115	19.04		
80	101	21.66		
85	90	24.45		
90	80	27.41		
95	72	30.54		
100	65	33.84		

3C 120TC



Plunger Diameter [mm]	Pressure Max [barg]	Flow Rate Max [m³/h]
30	495	6.09
35	364	8.29
40	279	10.83
45	220	13.71
50	178	16.92
55	147	20.48
60	124	24.37
65	105	28.60
70	91	33.17
75	79	38.07
80	70	43.32
85	62	48.91
90	55	54.83
95	49	61.09
100	45	67.69

Fluid Temperature [°C]	-10 / 200
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Stroke Length [mm]	120
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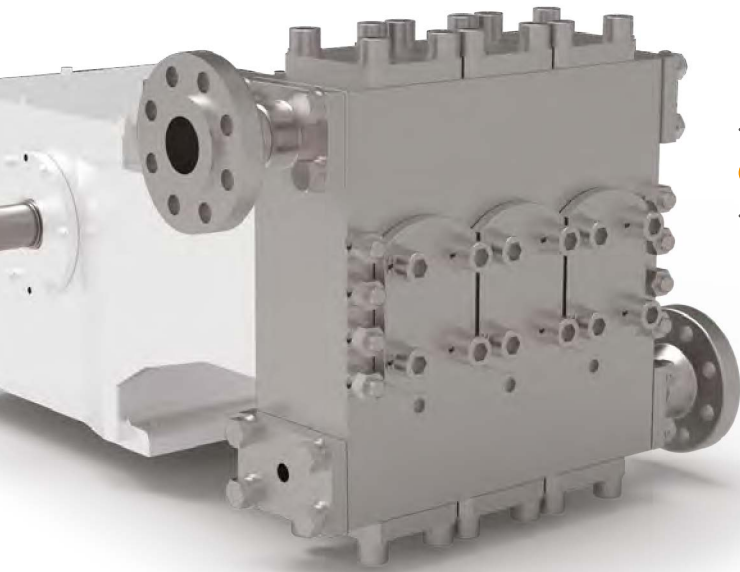
Thrust Max [kN]	35
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Motor Power Range (kW)	37 - 100
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3C120 TC execution

The unique design of this pump allows two pump heads to be fitted on the same mechanism; thus featuring a very effective performance to footprint ratio.

Advantages at a glance



Customization

With Exakta's support at every stage, these pumps are designed around customers' requests, with a wide choice of wetted parts, leakage control and collection, paint colour, documentation and certification.



Peace of mind solution

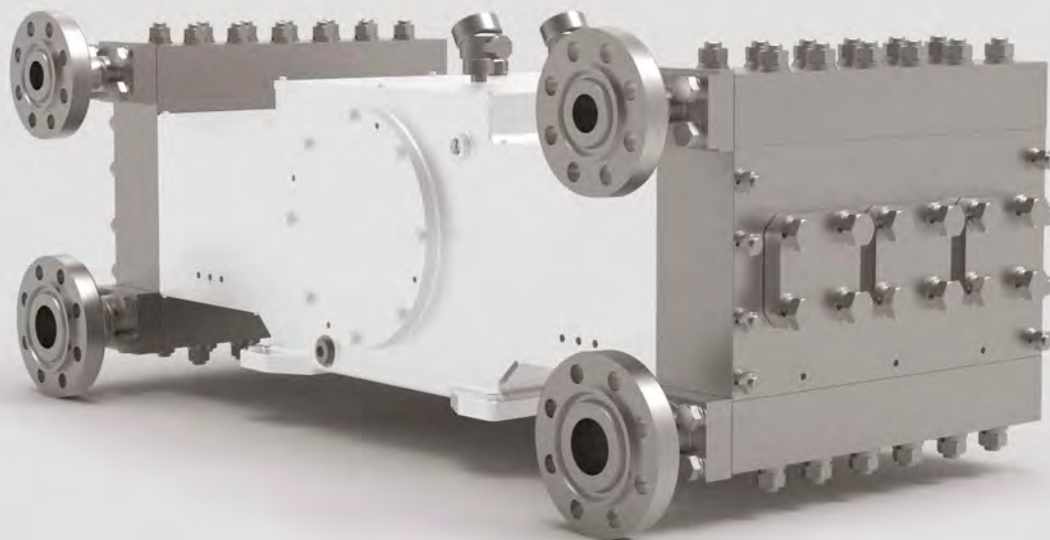
3C Triplex pumps can be supplied as part of a complete packaged solution by combining them with fully-compatible in-house designed accessories such as safety valves and pulsation dampers or any third-party ancillaries (motor, reducer, coupling, instrumentation) for a smooth pumping operation.



Reliability

With their outstanding build quality, premium components, low TCO (Total Cost of Ownership) and long MTBF, 3C Triplex pumps embody Exakta's core values of reliability and robustness, in addition to the durability to withstand temperature extremes, aggressive chemicals and other severe operating conditions encountered in heavy-industrial applications.

Industry applications



Oil & Gas

- Glycol for gas dehydration
- Methanol injection for hydrate control
- Well stimulation and service
- Hydrocarbon condensate and oily water
- Closed drain circulation



Oleochemicals

- Fatty acids pumping
- Glycerine production
- Raw material production for surfaceactive
- Stearin production



Fertilizers

- Urea and ammonia production
- Multi-compound fertilizers production



Ceramics

- Slurry pumping to atomizer
- Abrasive and corrosive liquids pumping
- Dosing of colours and glazes



Food & Beverage

- Feeding of fruit puree to the heat exchanger during pasteurization
- Transfer of tomato concentrate
- Homogenizer feeding



Metal & Mining

- Solid-liquid extraction or leaching in mineral ore processing
- Removal of sand, oil, rust, colloid and paint from castings
- Descaling in metallurgical plants
- Tailings water



Service and Maintenance

Our After Sales team is committed to maximizing your equipment operation providing technical assistance from office or directly at site - both onshore and offshore.

Take advantage of our offer including:

- Inspection of equipment with detailed report
- Operation & maintenance manual
- Test run procedure
- Provisioning of consumables list
- Pump obsolescence forecasting and overhaul
- Training of site personnel

Exakta has appointed a highly qualified team of engineers and technicians to perform installation, start-up and commissioning activities, as well as providing maintenance contracts according to the specific scope of work.

Spare Parts and Toolbox

Exakta wants to make life easy for our customers offering a wide range of genuine spare parts able to tackle the challenges of industrial processes.

The vacuum packaging allows the customer immediate visual check on integrity and quantity of the parts and avoids any risk of quality degradation, ensuring long shelf life.

As we know the importance of reducing planned and unplanned downtime in manufacturing plant at site, Exakta provides a toolbox equipped with the necessary tools for the quick and easy replacement of our spare parts.



The standard supply includes:

- Special tool for packing adjustment
- Pin punch diameter 6mm
- Pin punch diameter 8mm
- Pin punch diameter 10mm
- Bearing extractor
- Vacuum pump kit
- Feeler extractor
- Feeler valve driver
- Torque wrench
- Feeler valve group assembling tool
- 3 pump lifting belts

Other tools can be provided on customer demand.

Exakta has invested in the research and implementation of first-rate materials, controlled processes and sustainable solutions such as shipping spare parts in FSC Mix-certified cartons in order to meet our customers' needs while preserving the environment.

Exakta product accessories



Back pressure valves

Exakta pressure-retaining valves, with their compact and reliable set up, are suitable for applications where a constant back pressure is required. The PSV elastomer/PTFE diaphragm ensures chemical resistance and extended life with minimal maintenance. Back pressure valves are available in different sizes and materials (standard: AISI316L-PVDF-PVC; others on request) to comply with each and every application.



Safety valves

Safety valves are used to protect personnel and equipment from excessive pressure accumulation in a number of applications. Exakta can offer an extensive range of screwed and flanged valves in a variety of sizes, options and materials to comply with the strictest international standards.



Over pressure valves

Exakta PRM valves are designed to protect piping from undesired overpressure. They are available in different sizes and materials, coming as standard in AISI316L, PVDF and PVC with other options available on request. Compact and reliable construction, along with highly chemically-resistant elastomer/PTFE diaphragm, ensures Exakta PRM valves provide long life with easy low-level maintenance requirement.



Calibration pots

The Exakta-designed calibration pot, with its simple and accurate set up, is available in two material configurations (316L and PVDF) or exotic alloys upon request, granting full compliance with all pumped fluids. The stress-relieved borosilicate glass of the calibration pot body allows clear visibility without environmental impact or chemical risk, while an FEP gasket ensures high chemical compatibility. A graduated scale can be screen-printed or laser engraved for durability and easy reading while calibration pots can be equipped with further protection for heavy-duty applications.



Pulsation dampers

Pulsation dampers are crucial for stabilizing flow and pressure in circuits, minimizing or eliminating pulsations to increase the lifetime of the pump and accessories and lower the NPSH required. Exakta can offer a solution for every need:

- Bladder damper, with its multiple combinations for body and bladder materials, covers the most common requirements.
- Bellows damper, an efficient solution for pulsation dampening when liquid compatibility requires the use of PTFE as a separator element between gas and liquid for pressures below 100 bar.
- Membrane dampener, an efficient solution for high pressure (up to 700 bars) and when the PTFE is needed as a separator element between gas and liquid.



Pressure gauges

Exakta pumps can be equipped with pressure gauges as an alternate diaphragm rupture detection indicator or in line with the discharge piping to measure the actual back pressure.

These instruments are designed to resist the most severe operating conditions created by both the ambient environment and the process medium.

Pressure gauges are available in SS316 and in ATEX certified version.

Your Choice, Our Commitment

We work every day to turn our passion into ingenious solutions, leveraging operators' insights to meet and exceed expectations. Our dedication to providing consistent support throughout every project stage helps our customers to streamline their processes and overcome current and future challenges.

Vision

ENHANCED COMPETENCIES TO ACHIEVE OUR TARGETS AND GUARANTEE CUSTOMER SATISFACTION

Values

Exakta's commitment to ensuring that our partners' and customers' businesses work efficiently, safely and reliably arises from long-established expertise, pursuit of innovation and a highly-skilled team of specialists.

Everyone, wherever they are or in whichever function they work, shares this driving passion, supported by a company culture that nurtures and develops individuals and teams across a diverse workforce.

In the modern globalized world, Exakta delivers solutions for a dynamic and fast-changing environment while offering a true partnership for customers and employees alike.

Ensure Asset Integrity

Asset integrity applies to the entirety of an assets operation, from the design phase to decommissioning and replacement. Exakta knows the importance of a sound design, conceived to protect connected equipment and reduce operator risk, while manufacturing and installation processes comply with the strictest international standards of quality and safety. For Exakta, operational integrity means also reliability, availability and maintainability of the equipment throughout its operational life.

Guarantee Proximity to the Customer

Exakta is committed to interacting and collaborating with customers, ensuring their needs are integrated into equipment design and development. Our team of professionals provides tailored support throughout the project, helping the client manage risks. Exakta's partnership with customers is based upon trust and loyalty that results from transparency and sharing of skills, knowledge and information and ensures customer needs are met and exceeded.

Maximize Customer Revenues

Exakta ensures assets perform efficiently and safely by evolving and streamlining the design, development and production of compliant and versatile products. This allows operators to reduce both capital and operational expenditures and maximize returns on investment and assets in ever-challenging processes.



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