



Screw Pumps Technical Specifications

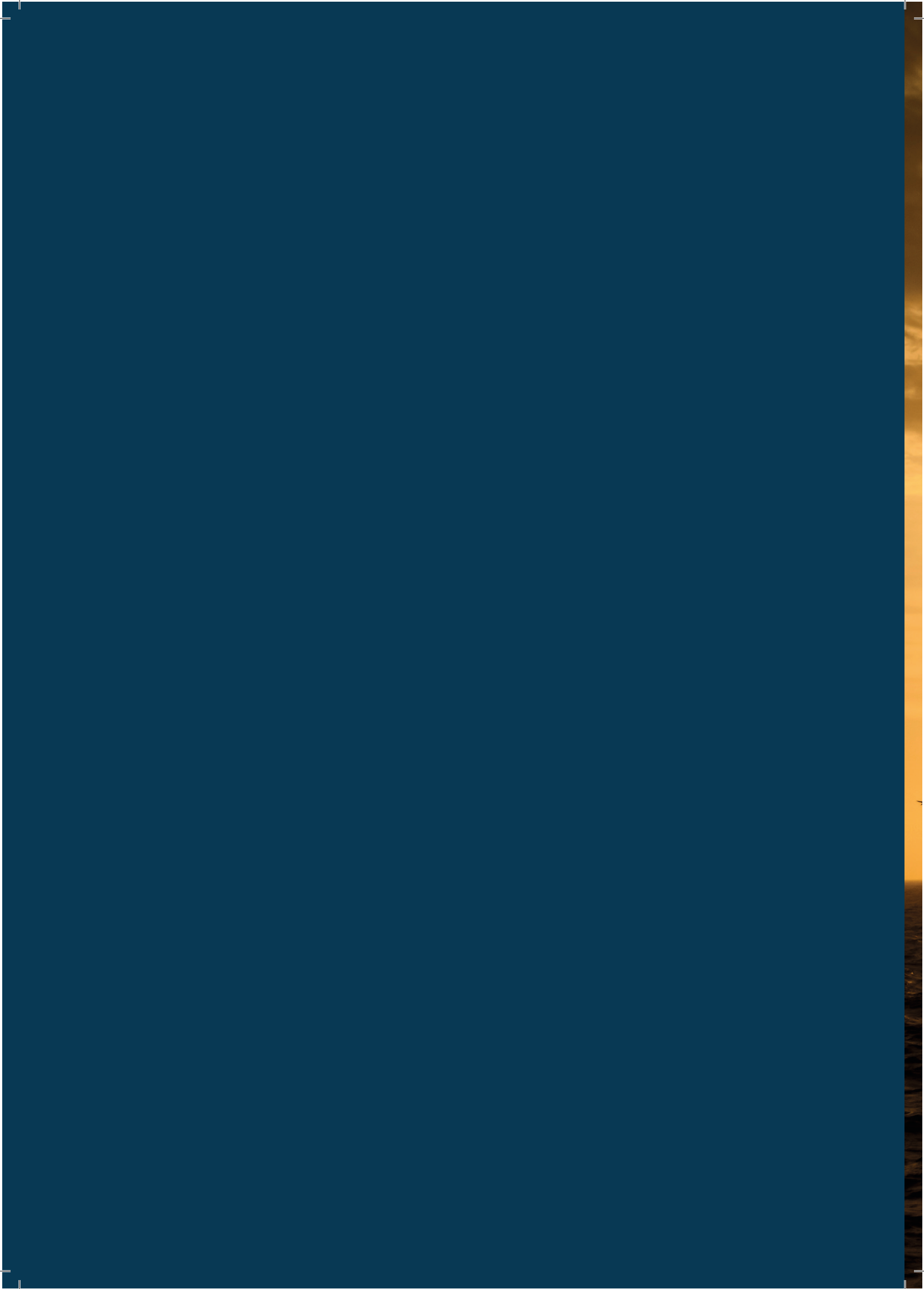
Screw Pumps

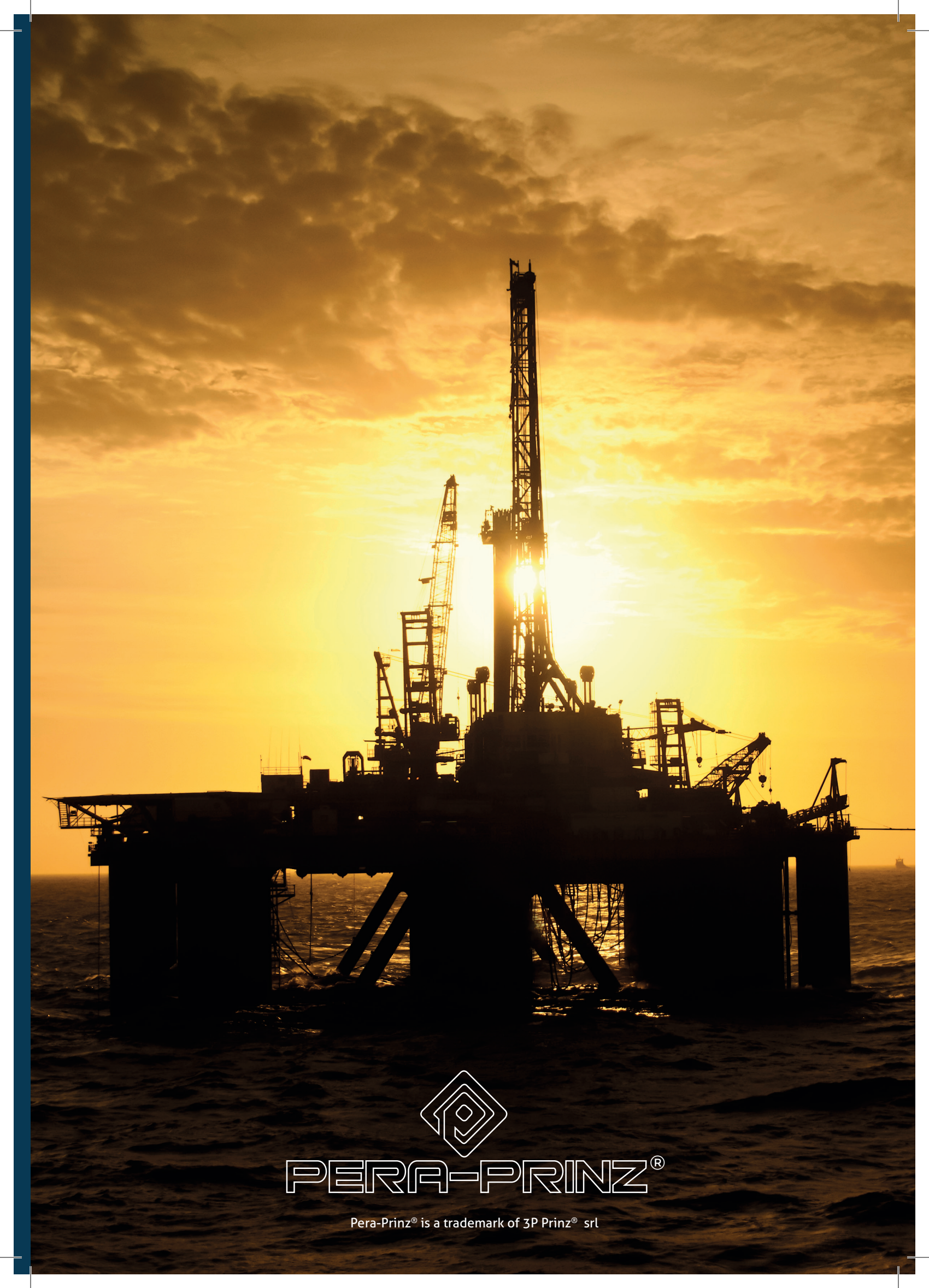
Positive
Displacement pumps

3P Prinz

Pumps Manufacturing Company
Since 1952

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sales@3pprinz.com





PERA-PRINZ®

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Pump type	SCREW PUMPS - TIMING EXTERNAL GEARS		
Pump Series	HD-H Series	HD-V Series (Vertical Installation Version)	
Installation Options:	Horizontal	Vertical	
Executions:	Standard & API 676 - Timing Gears - External Gears and Bearings		
Optimized for Applications in:	Oil&Gas, Petrochemical, Chemical, Shipbuilding, General Industry		
Suitable to Fluid having the following properties:	Abrasive and not Abrasive		
	Corrosive (Alkaline / Acid / Aggressive) and not Corrosive		
	Low / Medium / High / Very High Viscosities		
	Not Lubricating or Lubricating		
	Medium / High percentage of Gas or Air dissolved in Liquid (Multiphase versions available)		
	Slightly Dirty (small soft particles)		
Advantages of the Operating Principle:	Self Priming without any auxiliary devices		
	High Suction Lift Capacity (suitable to conditions with low NPSH available)		
	Capable to pump very viscous fluids (up to 35.000 cSt) thanks to its smooth and low-pulsation movement		
	High Rotating Speeds are possible thanks to the low inertia of the screws		
	Screws are contact-less so wear-out is minimized and Pump Life is extended		
	Pulsations are minimized and flow rate is uniform, allowing to handle fluids that are very viscous and sensitive to shear stresses or turbolences		
	Flow rate is constant even when pressure changes		
	Reversible at Low Speeds		
	Low noise level		
Pump Series	HD-H Series:	HD-V Series (Vertical Installation Version)	
Maximum manometric head:	20 bar (standard)	20 bar (standard)	
Flow rates:	up to 3000 m3/h	up to 1500 m3/h	
Viscosity of the pumped fluid:	up to 150.000 cSt	up to 150.000 cSt	
Pipe Nominal Size DN:	from 50 to 600	from 50 to 600	
Rotation speed:	from 200 up to 1800 rpm	from 200 up to 1800 rpm	
Temperature range:	-46/ +180 °C	-46 / +180 °C	
Pulsations:	Minimized (almost zero)	Minimized (almost zero)	
Dosing capability:	Good	Good	
Bearing types:	External Bearings and Gears in oil bath	External Bearings and Gears in oil bath	
Construction	Cast Housing, Welded Forgings Housing		
Standard Material Combinations:	Housing	Screws	Shaft/shafts
Customized materials:	Cast Iron, Carbon Steel,	Carbon Steel	Carbon Steel
	Low Temperature Carbon Steel	Various Stainless Steel grades	Stainless Steel AISI 420
	Various Stainless Steel grades	AISI 420 or 17-PH	Stainless Steel 17-4 PH
	Bronze, Nickel Aluminium Bronze	Duplex & Super Duplex St. Steel	Stainless Steel XM-19
	Duplex & Super Duplex St. Steel	Monel, Inconel® , Hastelloy	Duplex & Super Duplex St. Steel
	Inconel Weld Overlay (cladding)	HVOF Spray Coated	Monel, Inconel® , Hastelloy
		CRA Weld Overlaid	HVOF Spray Coated
	Other Alloys and Material Combinations are available on request		
	On request according to Norsok Standard		

APPLICATION FIELDS: mostly Oil & Gas, Petrochemical, Shipbuilding

Note

Oil & Gas

Petrochemical Industry:

Chemical Industry:

Marine & Shipbuilding:

Paints Manufacturing:

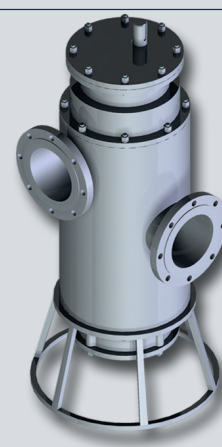
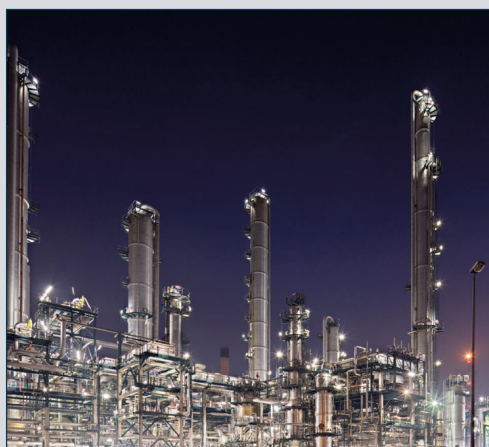



Pump type	SCREW PUMPS - TIMING EXTERNAL GEARS - HIGH PRESSURE		
Pump Series	UD-H Series	UD-V Series (Vertical Installation Version)	
Installation Options:	Horizontal	Vertical	
Executions:	Standard & API 676 - Timing Gears - External Gears and Bearings		
Optimized for Applications in:	Oil&Gas, Petrochemical, Chemical, Shipbuilding, General Industry		
Suitable to Fluid having the following properties:	Abrasive and not Abrasive		
	Corrosive (Alkaline / Acid / Aggressive) and not Corrosive		
	Low / Medium / High / Very High Viscosities		
	Not Lubricating or Lubricating		
	Medium / High percentage of Gas or Air dissolved in Liquid (Multiphase versions available)		
	Slightly Dirty (small soft particles)		
Advantages of the Operating Principle:	Self Priming without any auxiliary devices		
	High Suction Lift Capacity (suitable to conditions with low NPSH available)		
	Capable to pump very viscous fluids (up to 150.000 cSt) thanks to its smooth and low-pulsation movement		
	High Rotating Speeds are possible thanks to the low inertia of the screws		
	Screws are contact-less so wear-out is minimized and Pump Life is extended		
	Pulsations are minimized and flow rate is uniform, allowing to handle fluids that are very viscous and sensitive to shear stresses or turbulences		
	Flow rate is constant even when pressure changes		
	Reversible at Low Speeds		
	Low noise level		
	Pump Series	UD-H Series:	UD-V Series (Vertical Installation Version):
Maximum manometric head:	45 bar (standard); higher pressures available	45 bar (standard); higher pressures available	
Flow rates:	up to 3000 m3/h	up to 1500 m3/h	
Viscosity of the pumped fluid:	up to 150.000 cSt	up to 150.000 cSt	
Pipe Nominal Size DN:	from 50 to 600	from 50 to 400	
Rotation speed:	from 200 up to 1800 rpm	from 200 up to 1800 rpm	
Temperature range:	-46 / +350 °C	-46 / +350 °C	
Pulsations:	Minimized (almost zero)	Minimized (almost zero)	
Dosing capability:	Good	Good	
Bearing types:	External Bearings and Gears in oil bath	External Bearings and Gears in oil bath	
Construction	Cast Housing, Welded Forgings Housing		
Standard Material Combinations:	Housing	Screws	Shaft/shafts
	Carbon Steel,	Carbon Steel	Carbon Steel
	Low Temperature Carbon Steel	Various Stainless Steel grades	Stainless Steel AISI 420
	Various Stainless Steel grades	AISI 420 or 17-PH	Stainless Steel 17-4 PH
	Bronze, Nickel Aluminium Bronze	Duplex & Super Duplex St. Steel	Stainless Steel XM-19
	Duplex & Super Duplex St. Steel	Monel, Inconel® , Hastelloy	Duplex & Super Duplex St. Steel
	Inconel Weld Overlay (cladding)	HVOF Spray Coated	Monel, Inconel® , Hastelloy
		CRA Weld Overlaid	HVOF Spray Coated
	Customized materials:	Other Alloys and Material Combinations are available on request, On request according to Norsok Standard	

APPLICATION FIELDS: mostly Oil & Gas, Petrochemical, Shipbuilding

Oil & Gas
 Petrochemical Industry:
 Chemical Industry:
 Marine & Shipbuilding:
 Paints Manufacturing:

Note

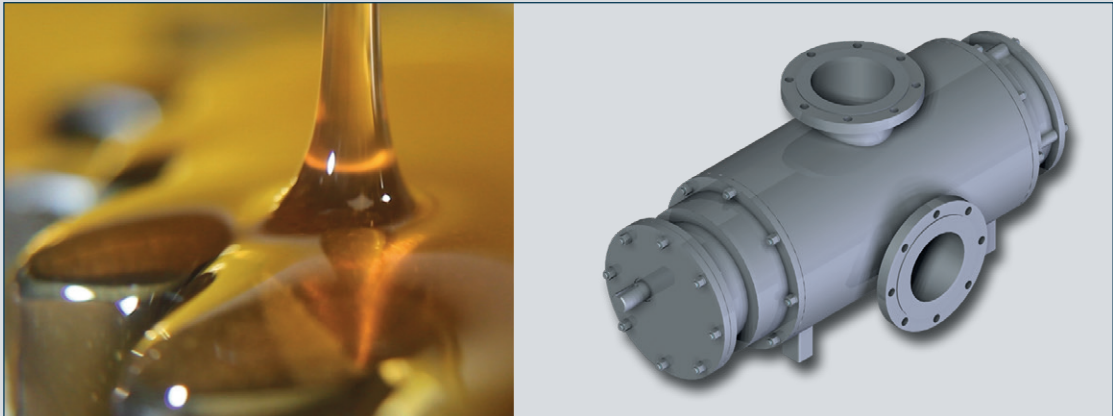


Pump type	SCREW PUMP WITH TIMING INTERNAL GEARS - HIGH CAPACITY (clean and lubricating fluids version)		
Pump Series	SD Series (High Flow Internal Gear Double Pair)	SD-V Series (Vertical Installation Version of SD)	
Installation Options:	Horizontal	Vertical	
Executions:	Standard & API 676 - Timing Gears - Internal Gears and Bearings		
Optimized for Applications in:	Petrochemical, Chemical, Shipbuilding, Power Generation, General Industry		
Suitable to Fluid having the following properties:	Not Abrasive Not Corrosive Low / Medium / High Viscosities Lubricating only Small percentage of Gas or Air dissolved in Liquid Clean (no Solid Particles or impurities)		
Advantages of the Operating Principle:	Self Priming without any auxiliary devices High Suction Lift Capacity (suitable to conditions with low NPSH available) Capable to pump viscous fluids (up to 10.000 cSt) thanks to its smooth and low-pulsation movement High Rotating Speeds are possible thanks to the low inertia of the screws Screws are contact-less so wear-out is minimized and Pump Life is extended Pulsations are minimized and flow rate is uniform, allowing to handle fluids that are quite viscous and sensitive to shear stresses or turbulences Flow rate is constant even when pressure changes Reversible at Low Speeds Low noise level		
Pump Series	SD Series (High Flow Internal Gear Double Pair):	SD-V Series (Vertical Installation Version of SD):	
Maximum manometric head:	16 bar	16 bar	
Flow rates:	up to 2500 m3/h	up to 2500 m3/h	
Viscosity of the pumped fluid:	max 10.000 cSt	max 10.000 cSt	
Pipe Nominal Size DN:	from 50 to 500	from 50 to 500	
Rotation speed:	from 200 up to 1800 rpm	from 200 up to 1800 rpm	
Temperature range:	max 120 °C	max 120 °C	
Pulsations:	Minimized (almost zero)	Minimized (almost zero)	
Dosing capability:	Good	Good	
Bearing types:	Internal Bearings and Gears	Internal Bearings and Gears	
Construction	Cast Housing - Fabricated Housing		
Standard Material Combinations:	Housing	Screws	Shaft/shafts
	Cast Iron, Nodular Iron, Carbon Steel,	Carbon Steel	Carbon Steel
	Low Temperature Carbon Steel	Various Stainless Steel grades	Stainless Steel AISI 420
	Various Stainless Steel grades	AISI 420 or 17-PH	Stainless Steel 17-4 PH
	Bronze		Stainless Steel XM-19
Customized materials:	No special alloys available On request according to Norsok Standard		

APPLICATION FIELDS: mostly Shipbuilding and Industries

Only clean and lubricating fluids

Note

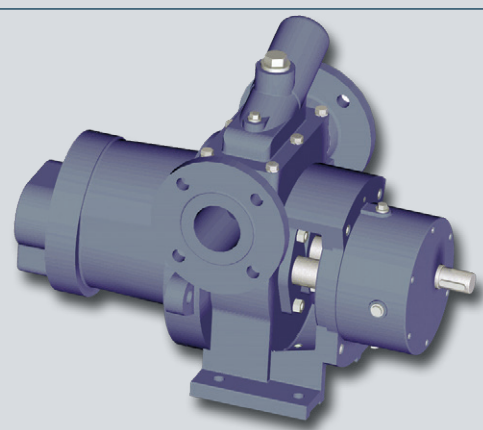


Pump type	2-SCREW PUMPS WITH TIMING EXTERNAL GEARS		
Pump Series	HM-H Series	HM-V Series (Vertical Installation Version of HM Series)	
Installation Options:	Horizontal	Vertical	
Executions:	Standard & API 676 - Timing Gears - External Gears and Bearings		
Optimized for Applications in:	Oil&Gas, Petrochemical, Chemical, Shipbuilding, Power Generation, General Industry		
Suitable to Fluid having the following properties:	Light Abrasive Light Corrosive Low / Medium / High Viscosities Not Lubricating or Lubricating Medium percentage of Gas or Air dissolved in Liquid Slightly Dirty (small soft particles)		
Advantages of the Operating Principle:	Self Priming without any auxiliary devices High Suction Lift Capacity (suitable to conditions with low NPSH available) Capable to pump very viscous fluids (up to 35.000 cSt) thanks to its smooth and low-pulsation movement High Rotating Speeds are possible thanks to the low inertia of the screws Screws are contact-less so wear-out is minimized and Pump Life is extended Pulsations are minimized and flow rate is uniform, allowing to handle fluids that are very viscous and sensitive to shear stresses or turbulences Flow rate is constant even when pressure changes Reversible Low noise level		
Pump Series	HM-H Series:	HM-V Series (Vertical Installation Version of HM Series):	
Maximum manometric head:	24 bar (standard); higher pressures available	24 bar (standard); higher pressures available	
Flow rates:	up to 503m3/h	up to 50m3/h	
Viscosity of the pumped fluid:	up to 35.000 cSt	up to 35.000 cSt	
Pipe Nominal Size DN:	from 40 to 100	from 40 to 100	
Rotation speed:	from 200 up to 1800 rpm	from 200 up to 1800 rpm	
Temperature range:	-20 / +180 °C	-20 / +180 °C	
Pulsations:	Minimized (almost zero)	Minimized (almost zero)	
Dosing capability:	Good	Good	
Bearing types:	External Bearings and Gears in oil bath	External Bearings and Gears in oil bath	
Construction	Cast Housing		
Standard Material Combinations:	Housing	Screws	Shaft/shafts
	Cast Iron, Carbon Steel,	Carbon Steel	Carbon Steel
	Low Temperature Carbon Steel	Various Stainless Steel grades	Stainless Steel AISI 420
	Various Stainless Steel grades	AISI 420 or 17-PH	Stainless Steel 17-4 PH
	Bronze, Nickel Aluminium Bronze	Duplex & Super Duplex St. Steel	Stainless Steel XM-19
	Duplex & Super Duplex St. Steel	Monel, Inconel® , Hastelloy	Duplex & Super Duplex St. Steel
	Inconel Weld Overlay (cladding)	HVOF Spray Coated	Monel, Inconel® , Hastelloy
		CRA Weld Overlayd	HVOF Spray Coated
Customized materials:	Other Alloys and Material Combinations are available on request, On request according to Norsok Standard		

APPLICATION FIELDS: mostly Oil & Gas, Petrochemical, Shipbuilding

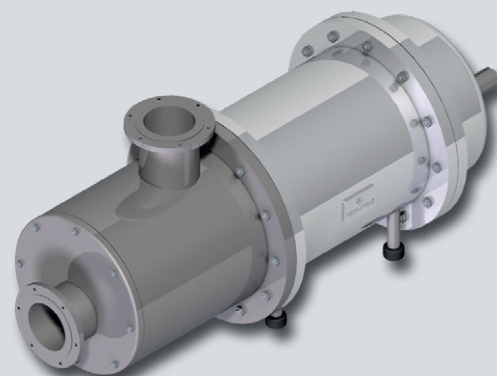
Oil & Gas
 Petrochemical Industry:
 Chemical Industry:
 Marine & Shipbuilding:
 Paints Manufacturing:

Note



Pump type	2-SCREW PUMPS FOR HYGIENIC SERVICE (Series FMH)		
Pump Series	FMH 100 Series:	FMH 200 Series	FMH 300 Series
Installation Options:	Horizontal		
Executions:	Standard compliant with 3A and EHEDG		
Optimized for Applications in:	Food & Beverage, Pharmaceutical		
Suitable to Fluid having the following properties:	Abrasive Corrosive Low / Medium / High Viscosities Not Lubricating or Lubricating Medium percentage of Gas or Air dissolved in Liquid Dirty (small and medium soft solid particles, up to 20-25 mm diameter)		
Advantages of the Operating Principle:	Self Priming without any auxiliary devices High Suction Lift Capacity (suitable to conditions with low NPSH available) Capable to pump very viscous fluids (up to 1.000.000 cSt) thanks to its smooth and low-pulsation movement High Rotating Speeds are possible thanks to the low inertia of the screws Screws are contact-less so wear-out is minimized, pump parts are not dissolved into product and Pump Life is extended Pulsations are minimized and flow rate is uniform, allowing to handle fluids that are very viscous and sensitive to shear stresses or turbulences, avoiding emulsions or fluid damage Flow rate is constant even when pressure changes Reversible Low noise level		
Pump Series	FMH 100 Series:	FMH 200 Series	FMH 300 Series
Maximum manometric head:	Up to 20 barg	Up to 20 barg	Up to 20 barg
Flow rates:	Up to 8 m3/h	Up to 45 m3/h	up to 105 m3/h
Viscosity of the pumped fluid:	up to 1.000.000 cSt		
Rotation speed:	from 100 up to 3600 rpm		
Temperature range:	-20 / +140 °C (160°C with Oil Cooler)		
Pulsations:	Minimized (almost zero)		
Dosing capability:	Good		
Bearing types:	External Bearings and Gears in oil bath		
Flange type	Dn 25-65 or 1 1/2 tri-clamp	DN 40-80 or 2" tri clamp	DN 50-150 or 4 o 6 tri clamp
Construction	Stainelss steel 316		
Standard Material Combinations:	Housing Stainless Steel SS316 grade NOTE: all parts in contact with the fluid are in SS316/SS316L grade Chromium Carbides Coatings available for several parts (including body internals) Teflon Coating available for several parts Other hardenings available depending on application	Screws Stainless Steel SS316 grade Stainless Steel 17-4 PH Stainless Steel XM-19	Shaft/shafts Stainless Steel SS316 grade Stainless Steel 17-4 PH Stainless Steel XM-19
APPLICATION FIELDS:	Food & Beverage:	Vegetable and Animal Oils	Fruit Juices, Pastes, Jam, Pulp
		Animal Fats Alcohol Sauces and Dough Syrups and Molasses Caramel and Fudge Fluids with pieces in suspension	Lecithin Chocolate Dairy Products Cream Wines & Beers Ground meat and similar
	Pharmaceutical and Cosmetics:	Cosmetics Pastes & Creams	Ointments, Emulsions Soaps and Detergents
	General Industry:	Paints Emulsions Any type of Oil	Enamels, Colours & Pigmented Pastes Additives Glues

Note



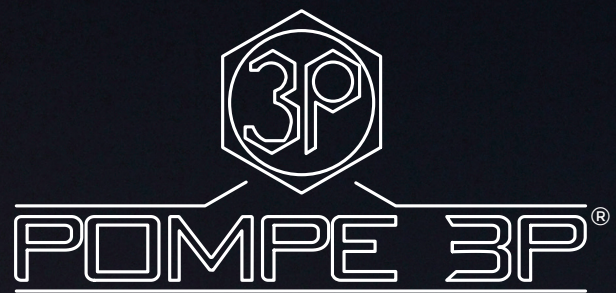


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