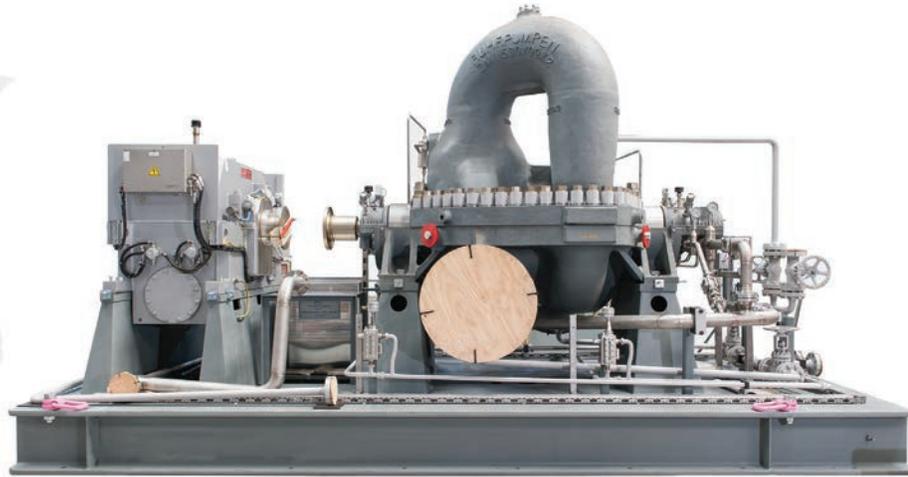


# Crude oil, refined product and NGL pipeline pumps

Oil and gas resources need to be transported over long distances from their point of extraction. From offshore platforms and onshore extraction fields, to refineries and storage tanks, and later to the final consumer, pipelines move hydrocarbons all around the globe.



***With 70 years in the industry, Ruhrpumpen is the ideal supplier to partner with, as our products were designed to fit in every stage of the pipeline process.***

As a vertically integrated company, with global experience and presence, few can match the experience, references and service that RP can provide. Our API 610 centrifugal pumps and API 674 reciprocating pumps, operate in crude oil, refined product and NGL pipeline pumping stations worldwide.

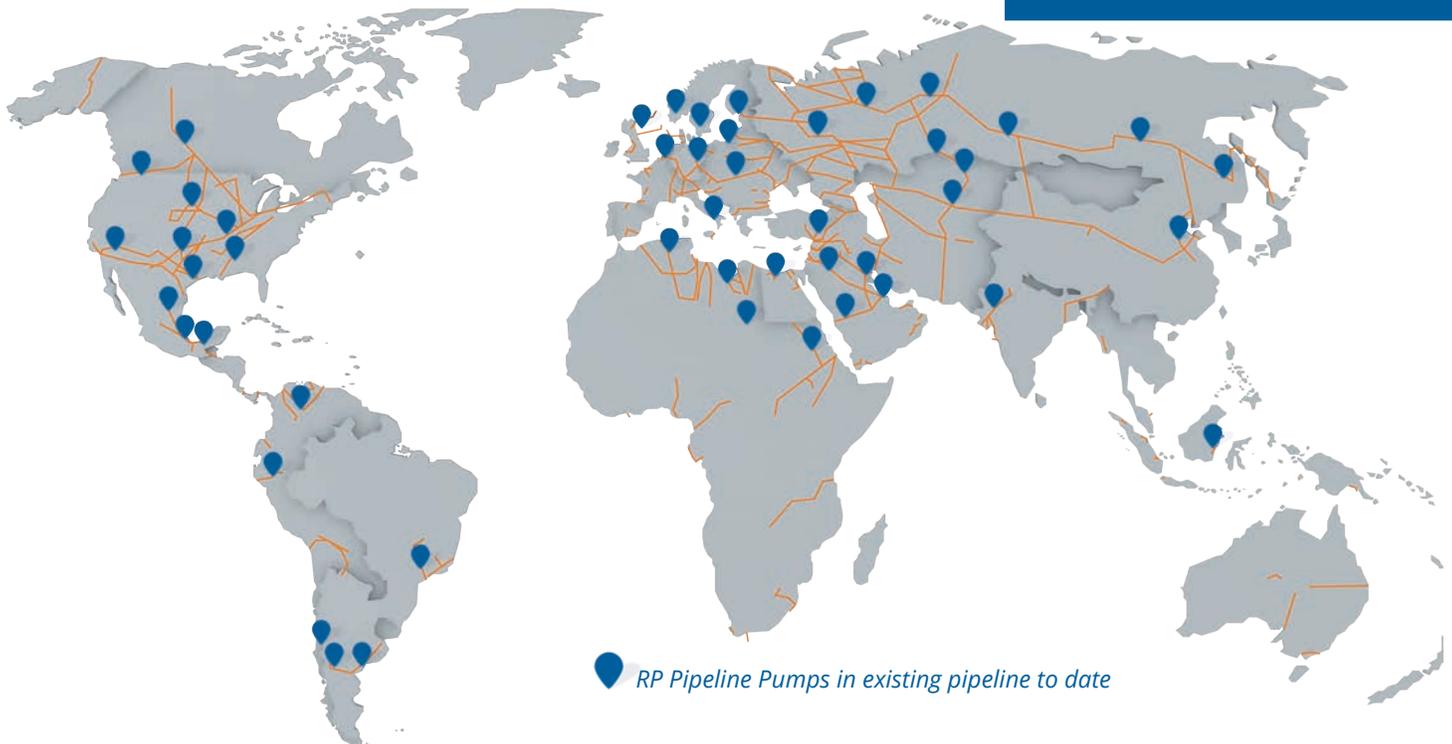


## Ruhrpumpen is your single source supplier

- Original Equipment
- Spare parts
- Installation and startup support
- Repair and maintenance
- Engineering, training and consulting
- Reverse engineering

## Benefits of our pumps:

- Proven reliability
- High efficiency designs ensure lowest operating cost
- Robust design allows for long system life with minimal maintenance
- Optimized total cost of ownership



Transporting crude oil, refined products or NGL requires the best pumping equipment. We are able to offer main pipeline pumps, booster pumps, and heavy-duty auxiliary pumps in accordance to the latest API specifications such as API 610 and API 674:

		RP MODEL	DESCRIPTION	OPERATING LIMITS
Mainline / Booster Pumps		<b>ZM / ZMS ZLM / ZME</b>	Single and two stage, axially split case process pumps (BB1)	Capacity up to 44,000 gpm (10,000 m <sup>3</sup> /h) Head up to 1,300 ft (400 m)
		<b>SM / JTN</b>	Axially split, multi-stage, double volute and diffuser casing process pumps (BB3)	Capacity up to 8,806 gpm (2,000 m <sup>3</sup> /h) Head up to 5,249 ft (1,600 m)
		<b>A LINE</b>	Radially split, multi-stage, double case, barrel type process pump (BB5)	Capacity up to 6,160 gpm (1,400 m <sup>3</sup> /h) Head up to 13,776 ft (4,200 m)
		<b>VLT / VMT</b>	Single and multi-stage vertical canned pumps (VS6)	Capacity up to 45,000 gpm (9,500 m <sup>3</sup> /h) Head up to 4,900 ft (1,494 m)
Auxiliary Pumps		<b>SCE</b>	Horizontal, centerline supported, single stage API process pump (OH2)	Capacity up to 14,000 gpm (3,200 m <sup>3</sup> /h) Head up to 1,575 ft (480 m)
		<b>SPI / SPN</b>	Vertical in-line API process pumps, flexible and close coupled (OH3 & OH5)	Capacity up to 2,700 gpm (615 m <sup>3</sup> /h) Head up to 950 ft (290 m)
		<b>HSC / ZW HSM</b>	Horizontal, single and multi-stage, split case pumps (BB1)	Capacity up to 140,000 gpm (31,800 m <sup>3</sup> /h) Head up to 2,210 ft (673 ft)
		<b>HVN / RON</b>	Radially split, single and two stage, process pumps (BB2)	Capacity up to 30,000 gpm (6,814 m <sup>3</sup> /h) Head up to 2,297 ft (700 m)
		<b>VSP VSP-Chem</b>	Single casing, vertical sump pumps (VS4)	Capacity up to 8,500 gpm (1,931 m <sup>3</sup> /h) Head up to 425 ft (130 m)
		<b>RDP</b>	Reciprocating plunger pumps in triplex and quintuplex formats acc. to API 674	Capacity up to 1,611 gpm (366.5 m <sup>3</sup> /h) Discharge pressure up to 14,500 psi (1,000 bar)

## Designed for changing demands

The **ZLM** is an axially split, diffuser type, single stage horizontal pump. Engineered in accordance with API 610 (BB1 type), it is recommended for applications with flow changes during the lifetime of a pipeline.

With different hydraulic patterns of impeller and diffuser, a wide range of flow and head can be achieved in the same pump casing. Meaning, the ZLM can be easily adjusted to new operating conditions.

