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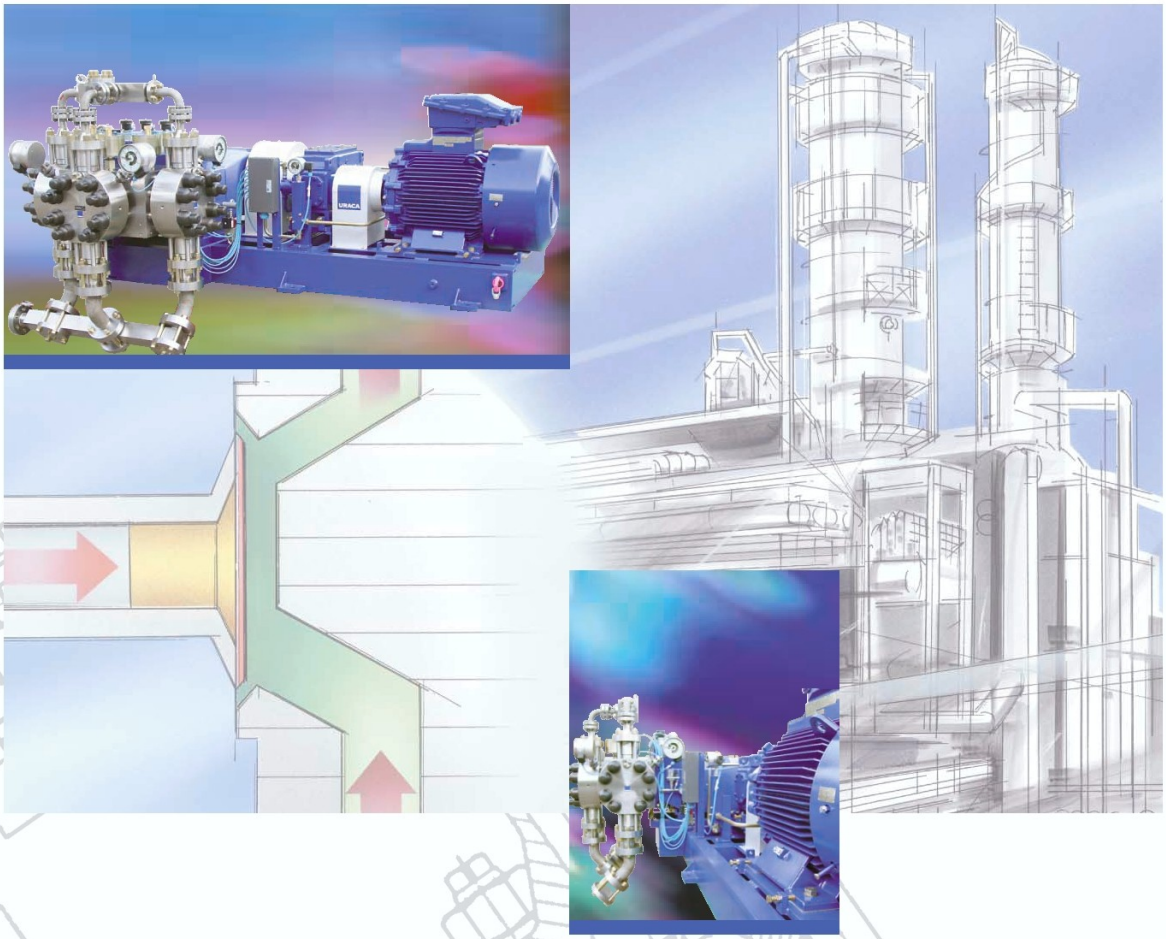
URACA

Diaphragm process pumps



Many pumping problems require special answers

Leak free pumping of dangerous and difficult to handle liquids.

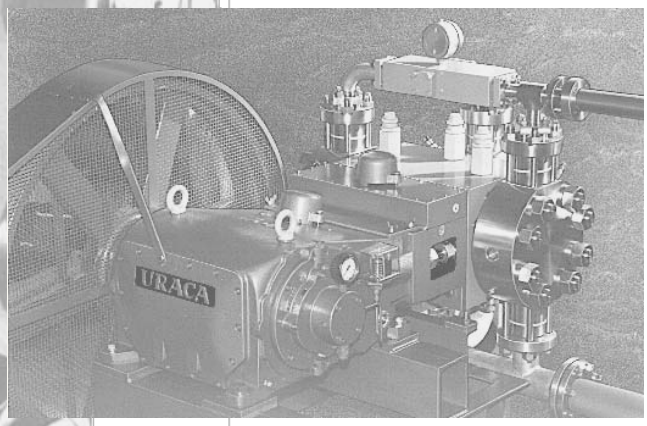
Reciprocating pumps play an important role whenever fluids are pumped to significantly higher pressures. Pump manufacturers are constantly forced to offer "new" equipment due to ever changing requirements of pressure, capacity parameters and materials of construction, plus the requirement to offer ecologically safe equipment.

URACA diaphragm pumps are an important new contribution to the control and pressurization of dangerous fluids. Not only does this type of pump offer the user reliability but also, it tends to humanize the workplace. Leak free pumping equipment is being increasingly specified for utilization where dangerous, toxic, or noxious liquids need be pressurized. URACA diaphragm pumps offer the major advantages of relatively wear free plunger seals plus leak free operation.

An integral control system eliminates pump overloading and indicates "early warning" diaphragm ruptures.

URACA diaphragm pumps offer users the following significant advantages:

- safety
- operational economy
- reliability
- compactness
- driver flexibility.



URACA redundant diaphragm type heads with safety features.

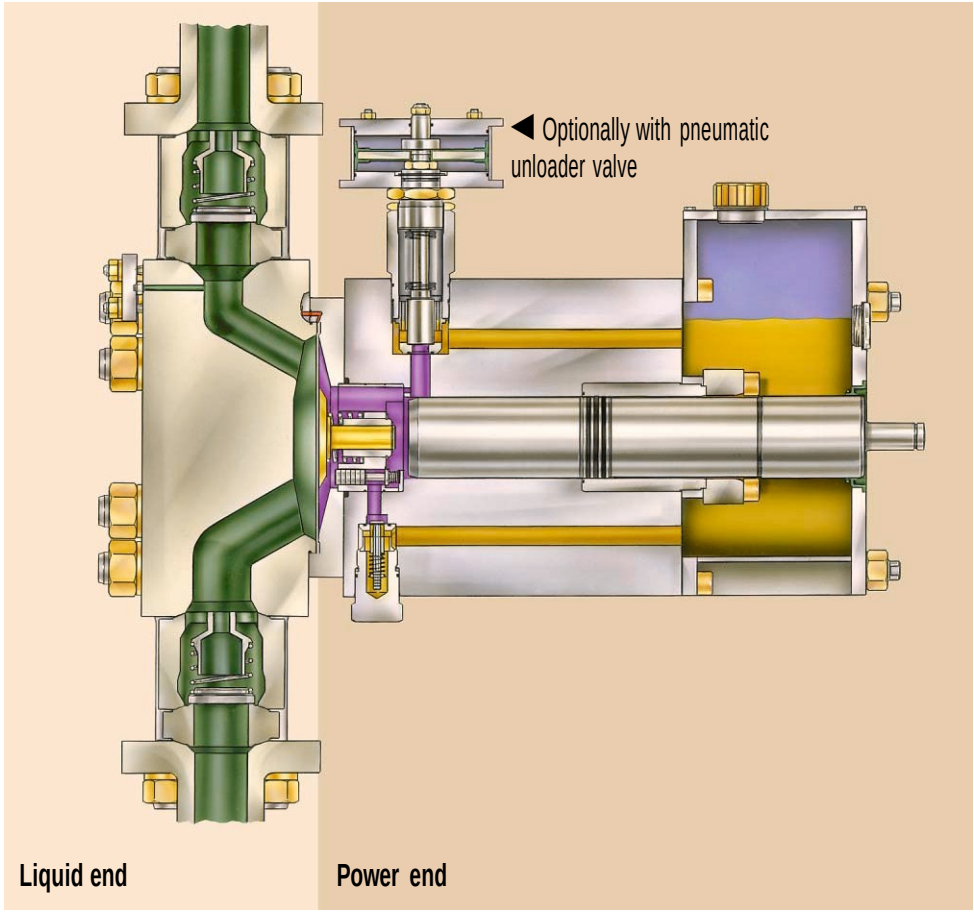
URACA diaphragm pumps are suitable for discharge pressures up to 350 bar (5075 psi) and liquid temperatures ranging between minus 40°C and 150°C (minus 40°F to 302°F).
The PTFE diaphragm is suitable for use with practically all liquids and effectively seals the area in contact with the pumped liquid. Additionally, other materials of construction, suction and discharge valve type, and stocking rate will be selected to meet process requirements.

The URACA diaphragm pump head is characterized by two key functional areas:

- the liquid contact area is contained between the block containing the voluntary suction and discharge valves and also the PTFE double membrane diaphragms.
- the hydraulic section which is fitted with the diaphragm position control and pressure limiting valve.

The oscillating plunger movement is transmitted to a double diaphragm via hydraulic fluid. The diaphragm position controller is subject to a "feeler" plate and hydraulic fluid replacement valve.

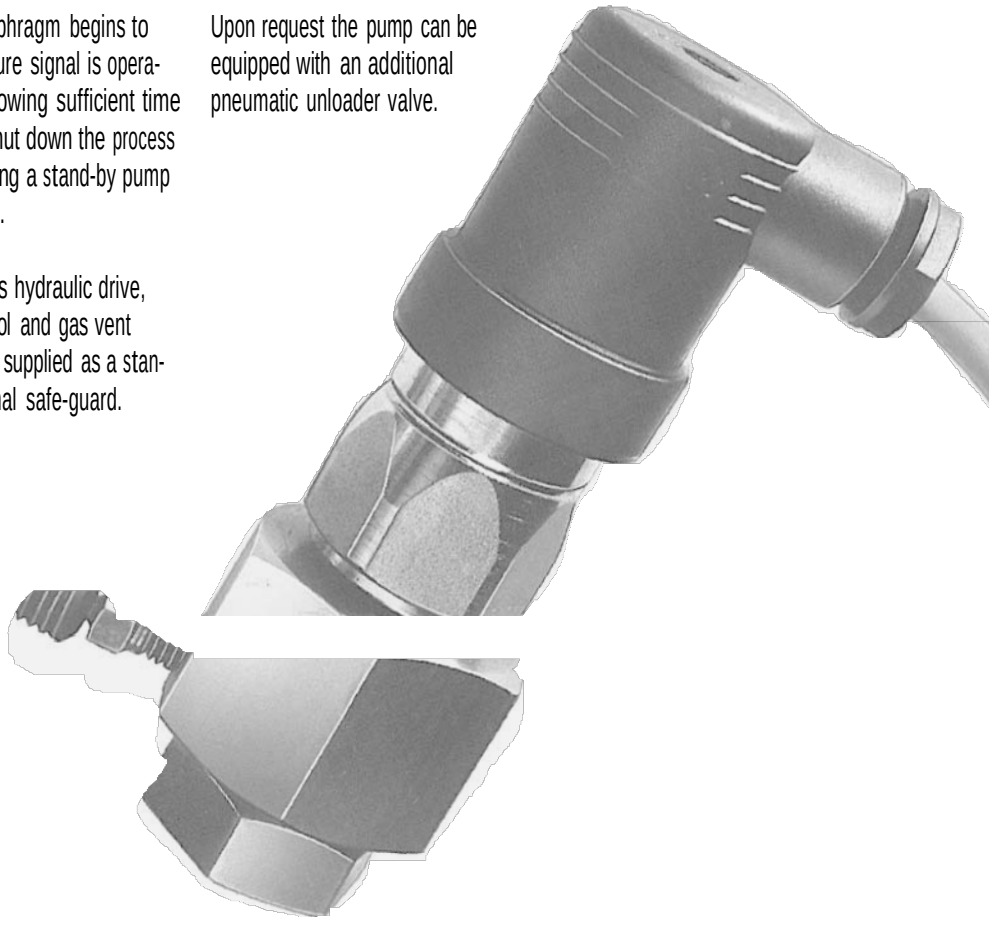
"On line" time, and operational safety are improved through the utilization of a double diaphragm with signal systems.



If a single diaphragm begins to leak, the rupture signal is operational thus allowing sufficient time to normally shut down the process and / or to bring a stand-by pump into operation.

For the pump's hydraulic drive, pressure control and gas vent valve are also supplied as a standard operational safe-guard.

Upon request the pump can be equipped with an additional pneumatic unloader valve.

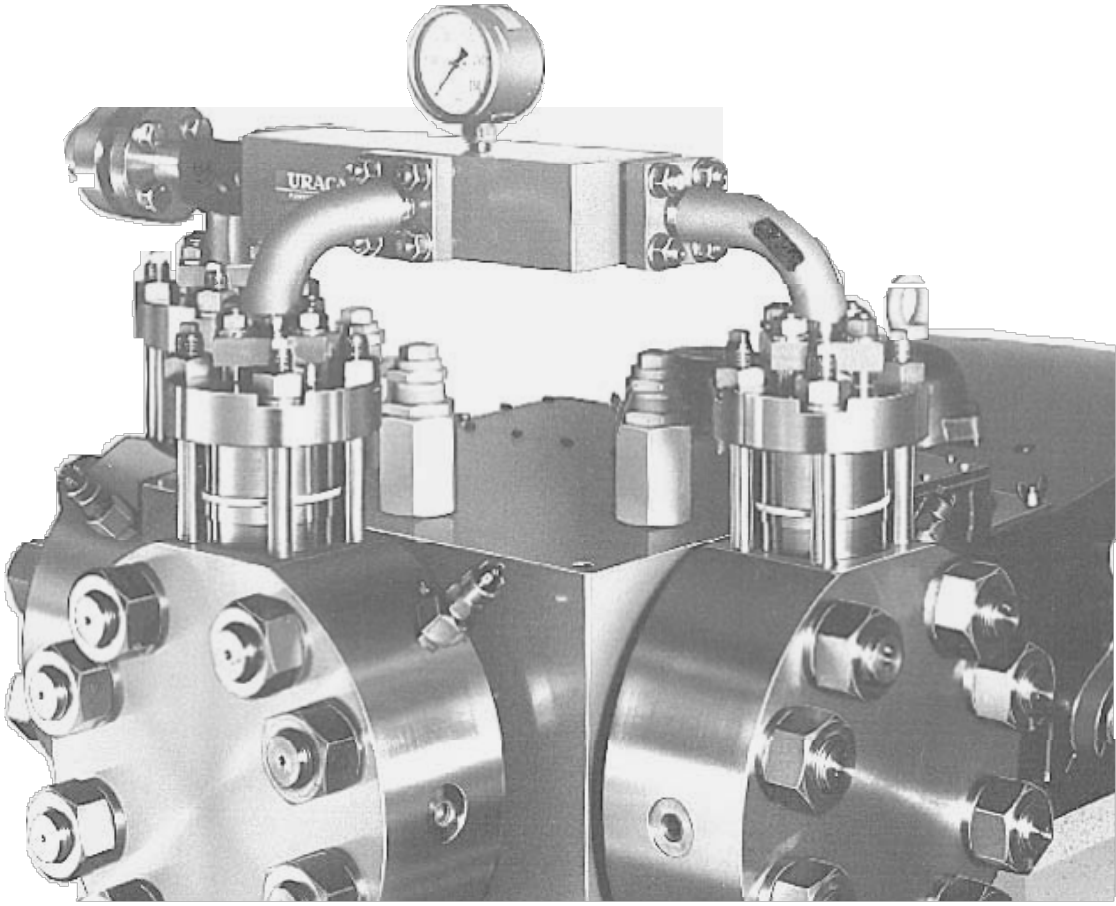


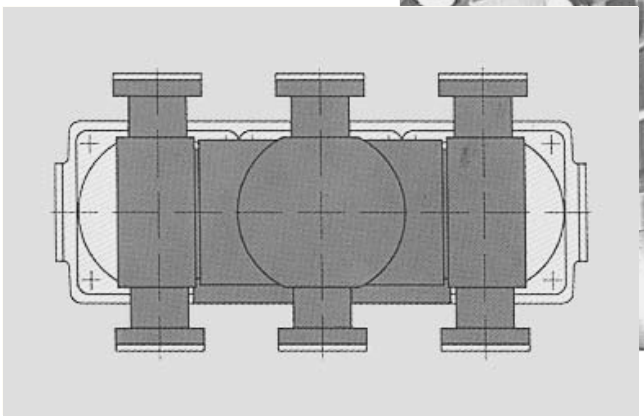
Economic space utilization

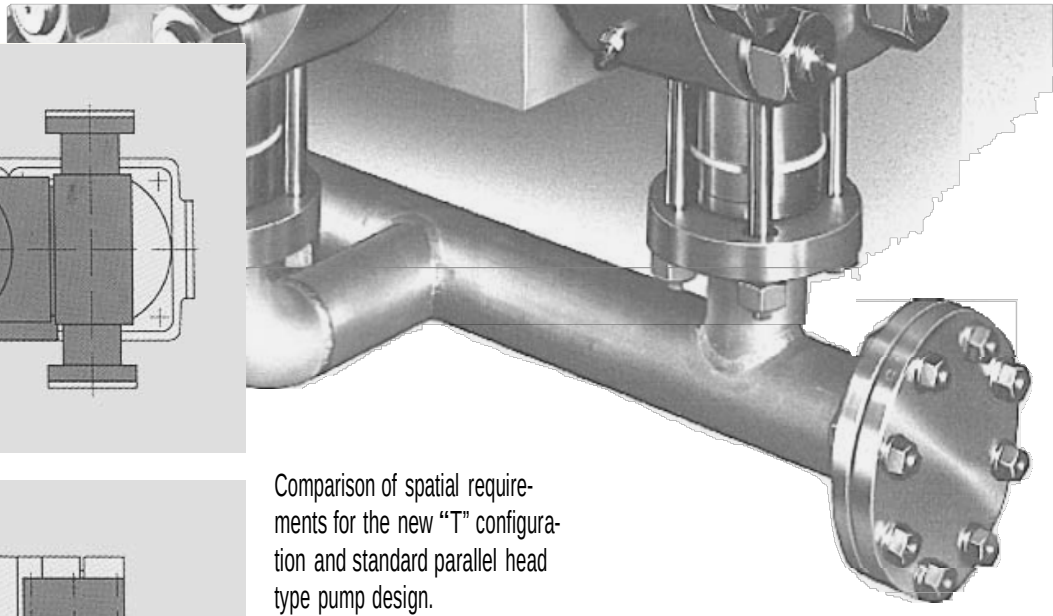
The URACA fluid end: a functional and space saving design.

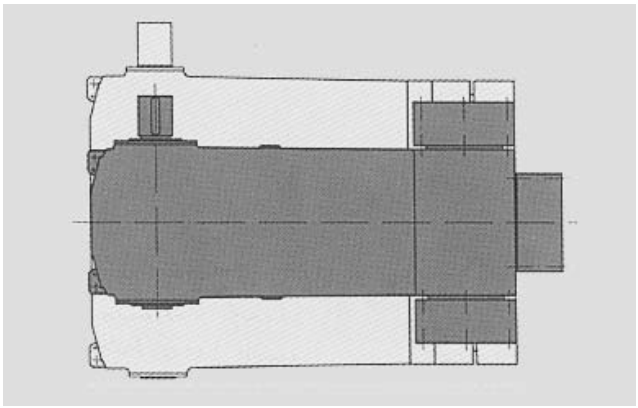
The "T" design fluid end configuration combines the advantages of utilizing the generally accepted triplex pump power end and yet concurrently offers reduced spatial requirements.

Also, the "T" configuration is user friendly in that the high pressure liquid ends are readily observable and accessible for maintenance if and when required. Valves are exchanged easily whether the pump is supplied with ball or plate valves as required by operational requirements.







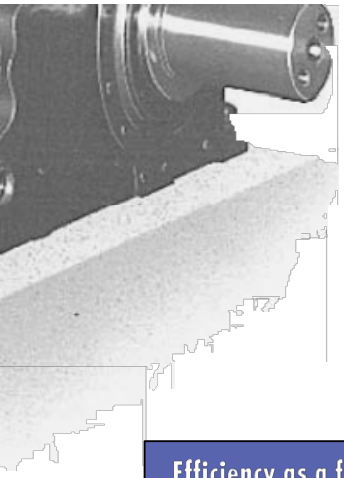


Comparison of spatial requirements for the new "T" configuration and standard parallel head type pump design.

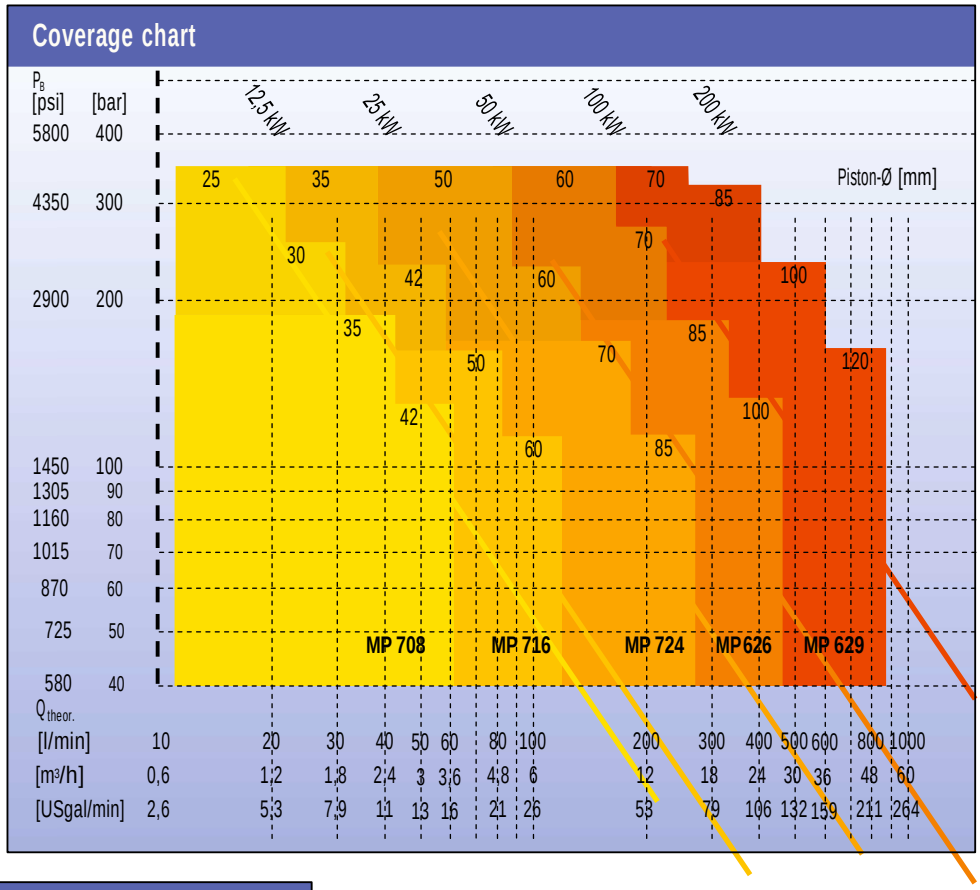
Performance and data

Optimal performance in compact triplex design.

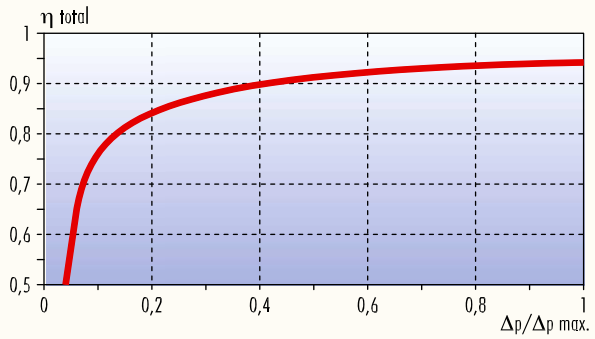
URACA diaphragm pumps cover a performance range with power end frames to 250 kW-capacities to 850 l/min and pressures to 350 bar.



Coverage chart



Efficiency as a function of discharge pressure



Power requirement

$$P = \frac{\Delta p \cdot Q}{\eta\ ges \cdot 600}\ [kW]$$

Δp = [bar]
Q = [l/min.]

$$\Delta p\ [bar] = \frac{\Delta p\ [psi]}{14,5}$$

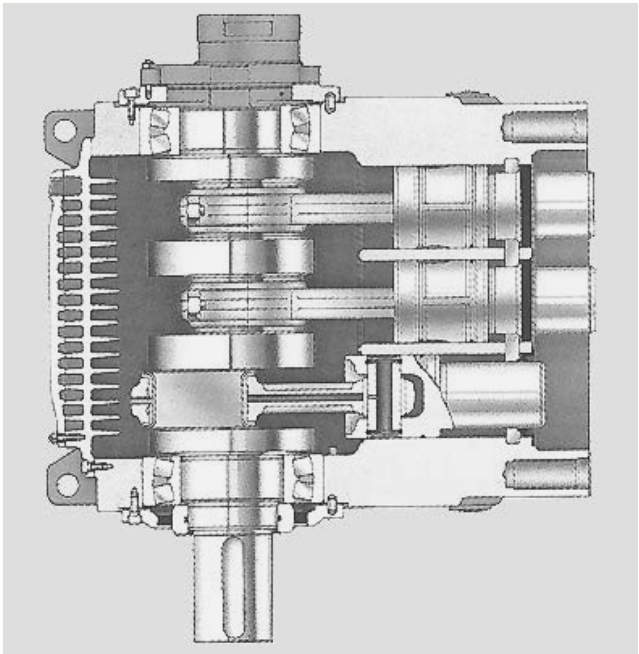
$$Q\ [l/min.] = Q\ [USgpm] \cdot 3,79$$

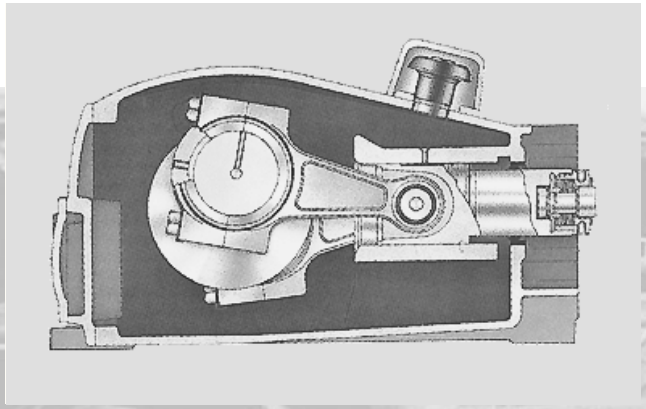
Proven performance with new perspective

URACA –
power end technology proven in daily operation around the world.

URACA power ends demonstrate an excellent performance record in daily operation around the world. URACA plunger pumps are installed from polar circles to the equator and exhibit an enviable reliability and service performance record regardless of climatic conditions.

Higher horsepower rated power ends are supplied with pressure lubrication and oil coolers as standard equipment. Smaller pumps of less than 25 kW are splash lubricated.





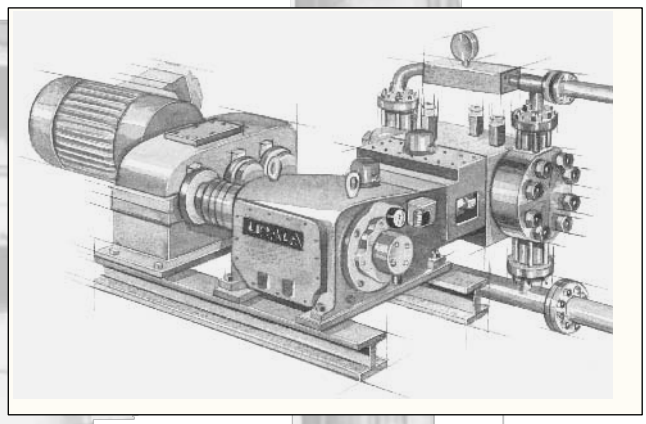
Power end standardization.

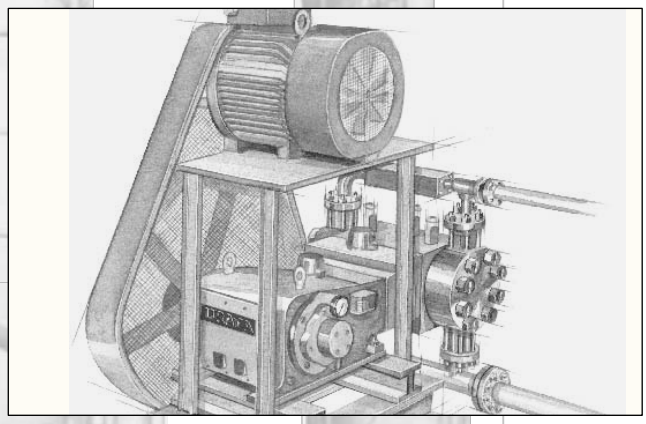
The utilization of standard, proven URACA power ends is a major benefit to diaphragm pump users.

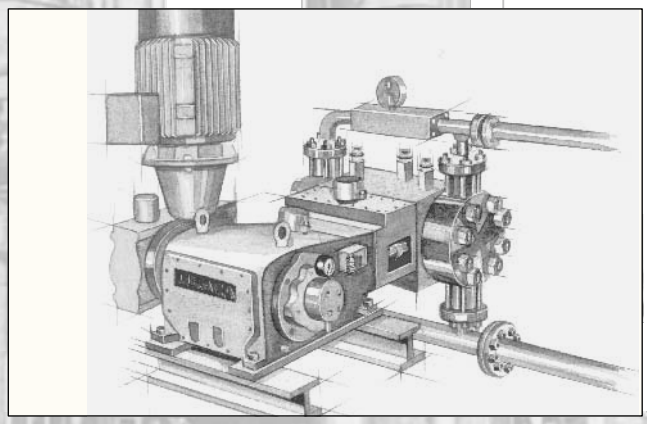
Drive options.

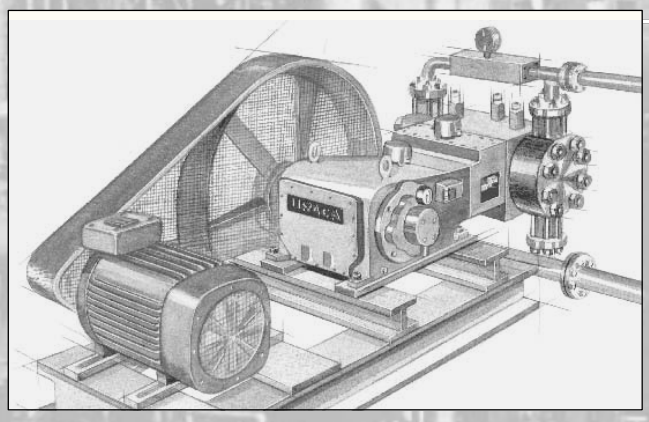
URACA diaphragm pumps may be driven by any existing drive suitable for reciprocating type pumping machinery, specifically, motor and belt drive, or motor gear combination, hydraulic drives or internal combustion engine. Electric motors may be located as shown for optimum space utilization.

Capacity control options are dependent upon pump power requirements and include variable speed gear / motor combinations, adjustable frequency drives and hydraulic speed variators.









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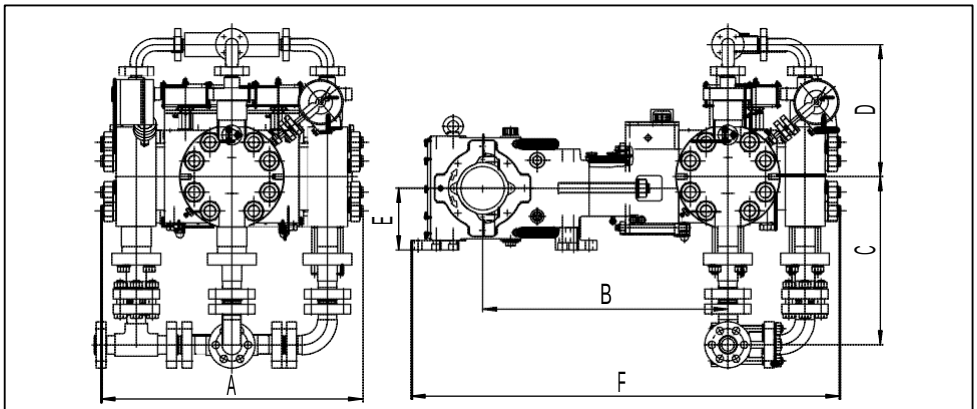
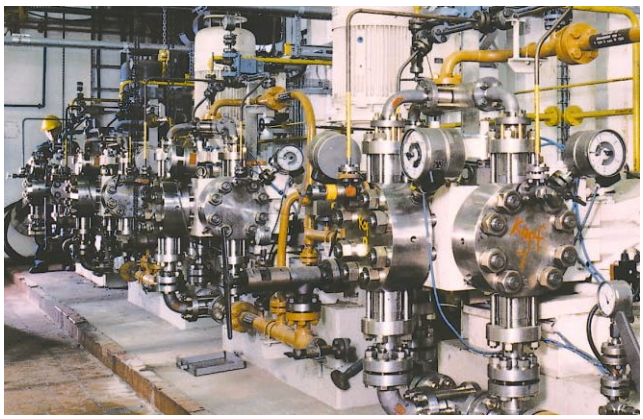
URACA – innovative design



Type Dim. (mm)	MP 708	MP 716	MP 724	MP 626	MP 629
A	680	765	910	1070	1290
B	660	750	870	1215	1530
C	420	450	500	690	850
D	400	430	470	620	780
E	130	145	180	230	290
F	1120	1275	1500	1965	2425
Weights (kg)	450	760	1410	2630	4720

- DIN EN ISO 9001: 2000 by LRQA
- VGB KTA 1401
- Gost



URACA diaphragm pumps: innovation for your success.

In favour of URACA:

- ecologically safe
- reliable
- compact design
- efficient
- driver flexibility
- good energy efficiency
- low weight

Typical liquid application:

- toxic
- explosive
- corrosive
- malodorous
- harmful to the environment
- noxious
- abrasive

Suction and discharge location and shaft extension location are all optional. Dimensions and weights are approximate and are not to be used for construction purposes. URACA reserves the right to modify specifications and design without notice.

PMP.e 04.06 L+S