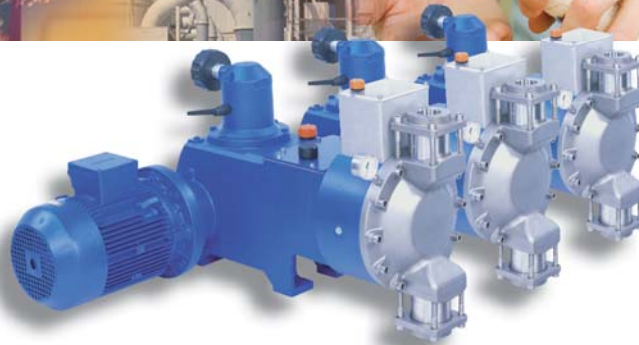


# NOVADOS

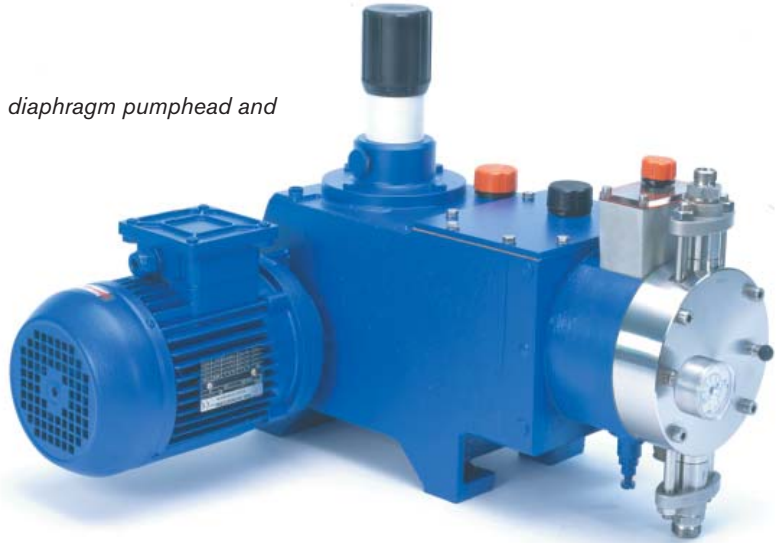
## Metering Pumps



# NOVADOS - A Selection of Metering Pumps Beyond Compare

Bran+Luebbe offers you an unrivaled range of metering pumps for practically every situation where liquids have to be metered and blended. The product range includes leakage-free diaphragm pumps as well as plunger pumps.

*Metering pump type H2 with diaphragm pumphead and manual flow rate control*



## Applications

### Industries

- BioFuels
- Chemical Processing
- Detergents
- Food & Beverages
- Energy
- Environmental
- Oil & Gas
- Personal Care
- Petrochemical
- Pharmaceutical & Biotech
- Pulp & Paper
- Textile
- Water Treatment

### Liquids

- From harmless to aggressive toxic or hazardous
- From clean to slurries with up to 20% solids content
- From low to high viscosity up to 30,000 cps

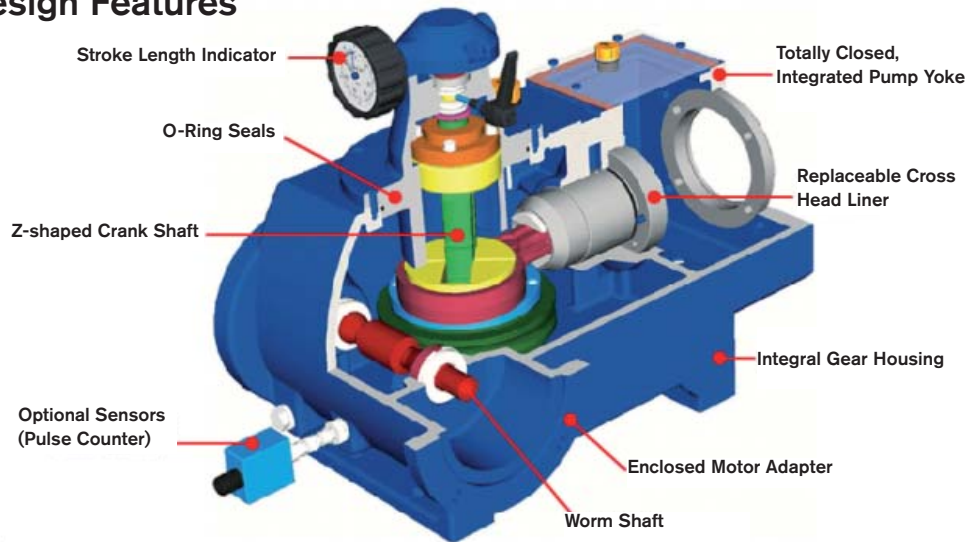
### Service

- **Standard metering** of one component
- **Process metering** of one component utilizing a multihead pump
- **Multi stream metering** for recipe blending of different liquids



*Metering pump type H4 with high pressure diaphragm pumphead and flow rate control via electric stroke length adjustment*

## Common Design Features



*Multiplex metering pump type H4-H4-H1-H1 with diaphragm pumpheads and flow rate control via individual electric stroke length adjustment*



*Metering pump type CS32C32J32 with a variety of different pumpheads and individual manual flow rate control*

## Advantages

### Flexible

- Optimal capacity flexibility to widely varying production processes
- Variable stroke length for each pump allows independent adjustment of each component
- Variable speed drive allows flow rate variations while maintaining constant proportions

### Economical

- Automation and accuracy allows for higher production efficiencies to be achieved

### Adaptable

- Existing installations can be upgraded or expanded with extra pumps or automatic control

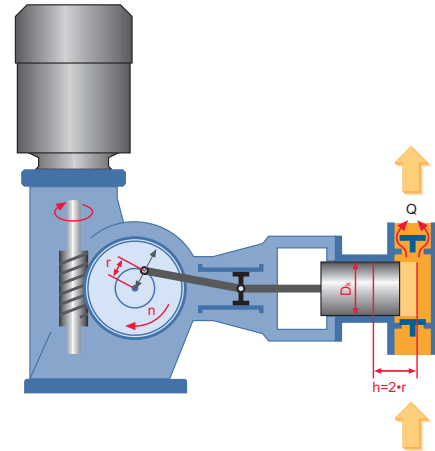
# NOVADOS - Concept of the Bran+Luebbe Metering Pumps

## Working Principle of the Metering Pump

Metering pumps are normally composed of a motor, the metering pump gear and the pumphead.

The gear reduces the motor speed and converts the rotary motion into a reciprocating movement of a plunger in the pumphead and with a certain stroking speed. The alternating operation of suction and discharge valves during the plunger stroke generates a flow of liquid.

Flow rate of a metering pump is basically defined by the number of stroke volumes per time unit.

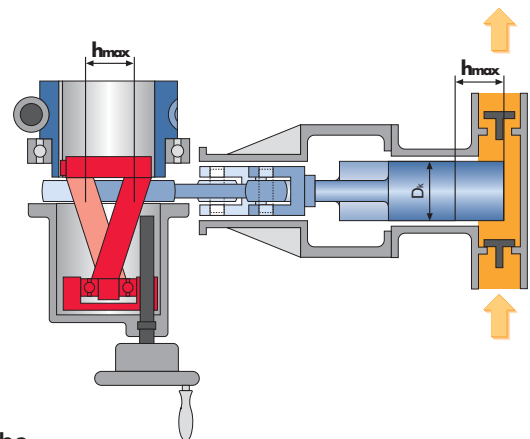


## Simply Effective: Flow Rate Adjustment By the Z-Shaped Crankshaft

Flow rate can be adjusted linearly and continuously between zero and maximum by altering the position of the eccentric (Z-Shape) crankshaft. This design allows adjustment while the pump is operating or at standstill. The stroke length can be set with a vernier indication of position in 0.02 mm increments (manual).

Bran+Luebbe metering pumps exceed the requirements of API 675 in terms of metering accuracy, linearity and reproducibility. Metering accuracy can be as good as 0.5%.

For a more detailed description please ask for a free copy of our CD: "The Function of the Bran+Luebbe Stroke Length Adjustment via Z-shaped crank shaft". Or visit our website [www.spxpe.com](http://www.spxpe.com).



## Flow Rate Control via Stroke Length Adjustment

### Manual

- With integrated scale with 0.02 mm resolution

### Electric Servo Motor

- Directly operated
- With input signal 4...20mA
- Includes explosion proof executions

### Pneumatic

- Directly operated
- With input signal 3...15 mA
- With input signal 4...20 mA



*Metering pump type H1 with plastic diaphragm pumphead and flow rate control via pneumatic stroke length adjustment*

# Diaphragm Metering Pumps

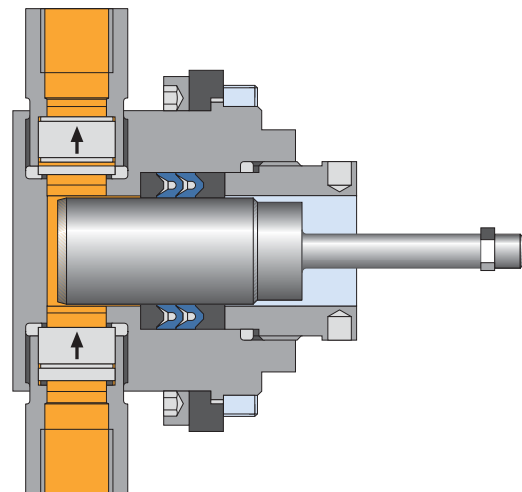
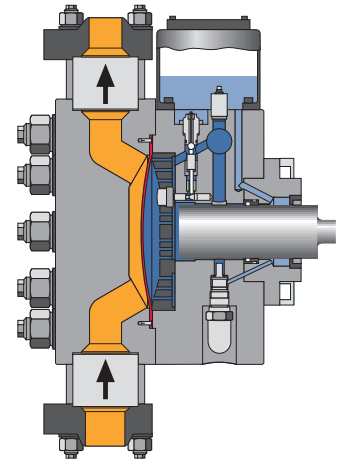
## Patented diaphragm position control for maximum operating security

A leak-proof pump is the right choice whenever product purity and sterility are imperative or when toxic liquids must be handled.

Bran+Luebbe offers a wide range of hydraulically actuated diaphragm pumps. Flow rates range from as little as 0.1 gph up to 2700 gph and pressure as high as 15,000 psi. The patented positive diaphragm position control system (PDPC) ensures that the diaphragm cannot be damaged even under critical conditions such as a blocked pipe or closed valves upstream or downstream of the pump.

Bran+Luebbe's PDPC System allows for unobstructed flow through the pumphead, providing superior NPSHr characteristics and the ability to meter slurries and viscous fluids easily.

For more detailed description please ask for a free copy of our CD: "The Function of the Diaphragm Position Control". Or visit our website [www.spxpe.com](http://www.spxpe.com).



# Plunger Metering Pumps

## The right choice for metering harmless or non-critical applications

Even though the design of plunger pumpheads is quite simple, these Bran+Luebbe pumps have outstanding performance. This is due to the Bran+Luebbe metering pump valves in combination with the high-precision metering gear.

For certain applications it is possible to use double-acting pumpheads that allow to pump roughly two times as much fluid.

Flow rates range from 0.02 gph up to 10,000 gph and pressure as high as 15,000 psi.

## Advantages

- Metering accuracy as good as +/- 0.5% due to precise construction and design
- Harmonic flow rate pattern for all stroke settings due to z-shaped positive return crankshaft
- Versatility with vertical and horizontal combinations
- Leak-free metering of liquids due to double diaphragm pumpheads with hydraulic diaphragm actuation
- Wide range of possibilities for controls and automation
- Flow rates per pumphead from 0.02 gph up to 10,000 gph
- Pressure up to 15,000 psi

# NOVADOS - Solutions for Numerous Requirements

## Options To Suit Specific Applications

### Pumphead Selections

- **Double diaphragm** with hydraulically actuated diaphragms or **Plunger** or **piston** with
  - heating or cooling jackets even includes valves
  - quick-change valves
  - remote valves
  - optimized flow channels for slurries or viscous fluids
  - sanitary design

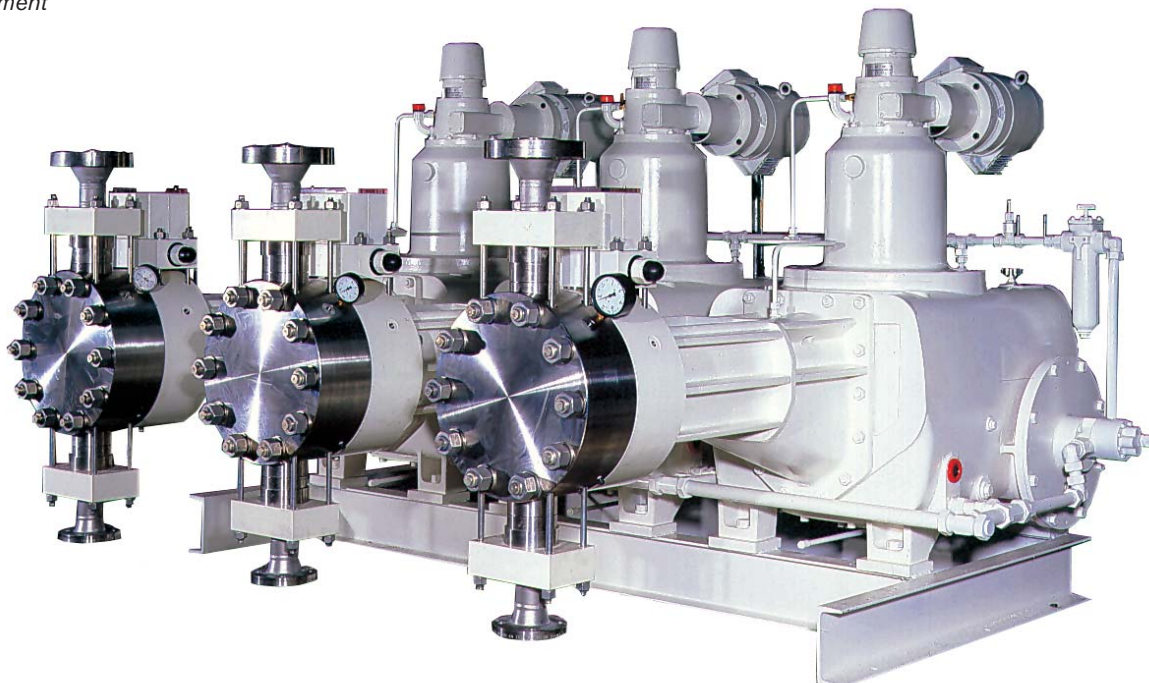
### Valve Designs

- Ball valves (single, double or triple)
- Cone valves with or without spring
- Plate valves
- Pneumatically or mechanically actuated valves

## Materials of construction for liquid-wetted parts of the pump

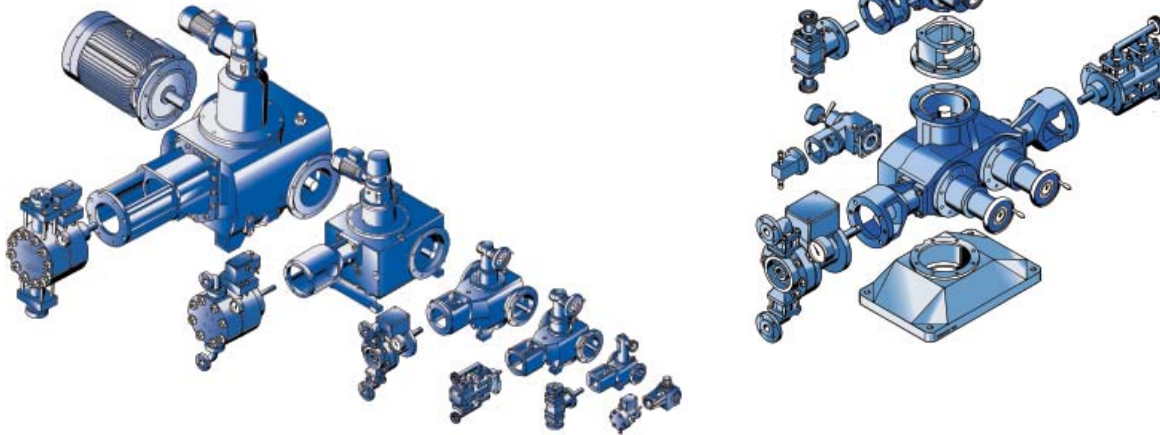
- Housings of Stainless steel 316 or Duplex
- Alternatively PVC, PP, PVDF or stainless steel lined with HALAR (E-CTFE)
- Diaphragms of PTFE or stainless steel
- Plungers of 316 ss, ceramic, tungsten carbide
- Valve of stainless steel or plastic, hard metals and exotic materials
- Practically all exotic materials such as Hastelloy, Titanium, Stellite etc. are available as well.

*Triplex process metering pump type BS43 with diaphragm pumphead and flow rate control via electric stroke length adjustment*



# Horizontal and Vertical Combinations

Bran+Luebbe is the only manufacturer of metering pumps worldwide to offer both combinations, horizontal and vertical. Possible equipment combinations range from simplex pumps for one stream of liquid to multiplex pumps with up to 20 different streams, each of which can be controlled independently.

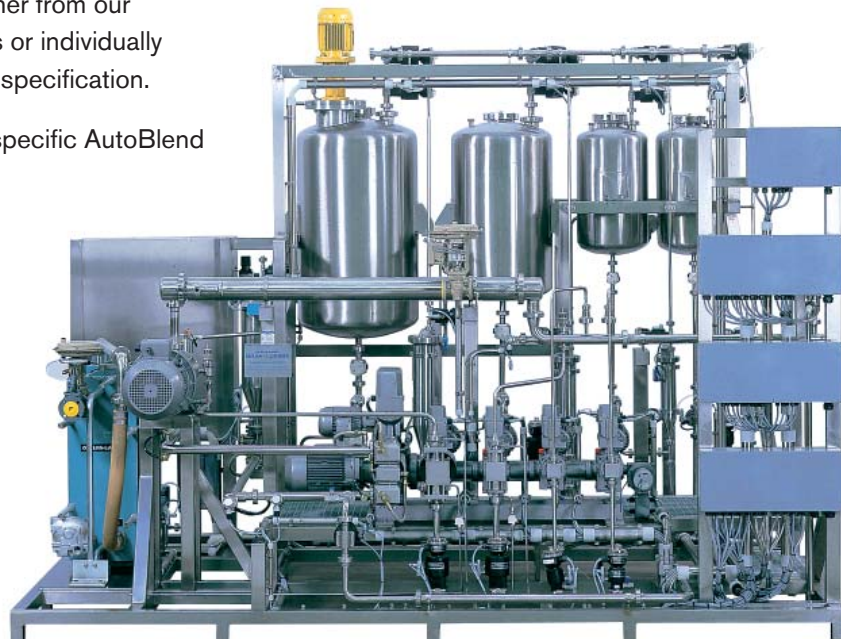


# AutoBlend

**AutoBlend is the brand name of the Bran+Luebbe turn-key metering & blending systems for the production of high-value products using liquids, pastes and powders.**

Our dedicated systems engineers develop the best possible solution for your needs, either from our extensive range of standard systems or individually designed and manufactured to your specification.

For more details please ask for the specific AutoBlend brochure.



*Bran+Luebbe metering and mixing system for continuous production of high quality body lotion.*