

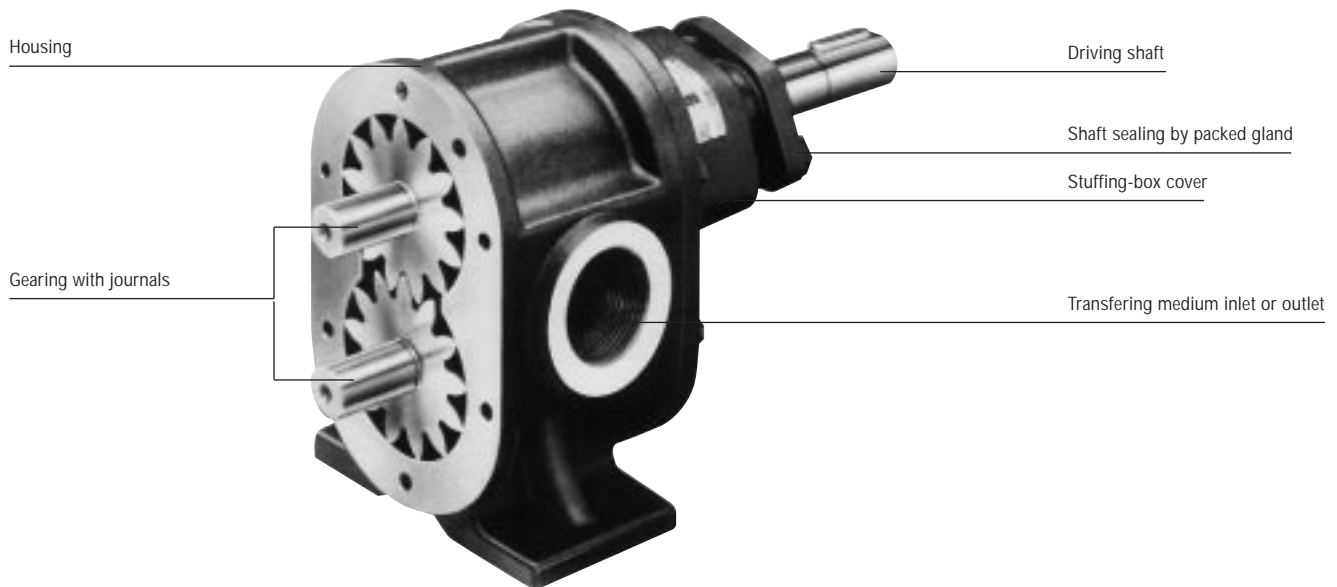
KRACHT



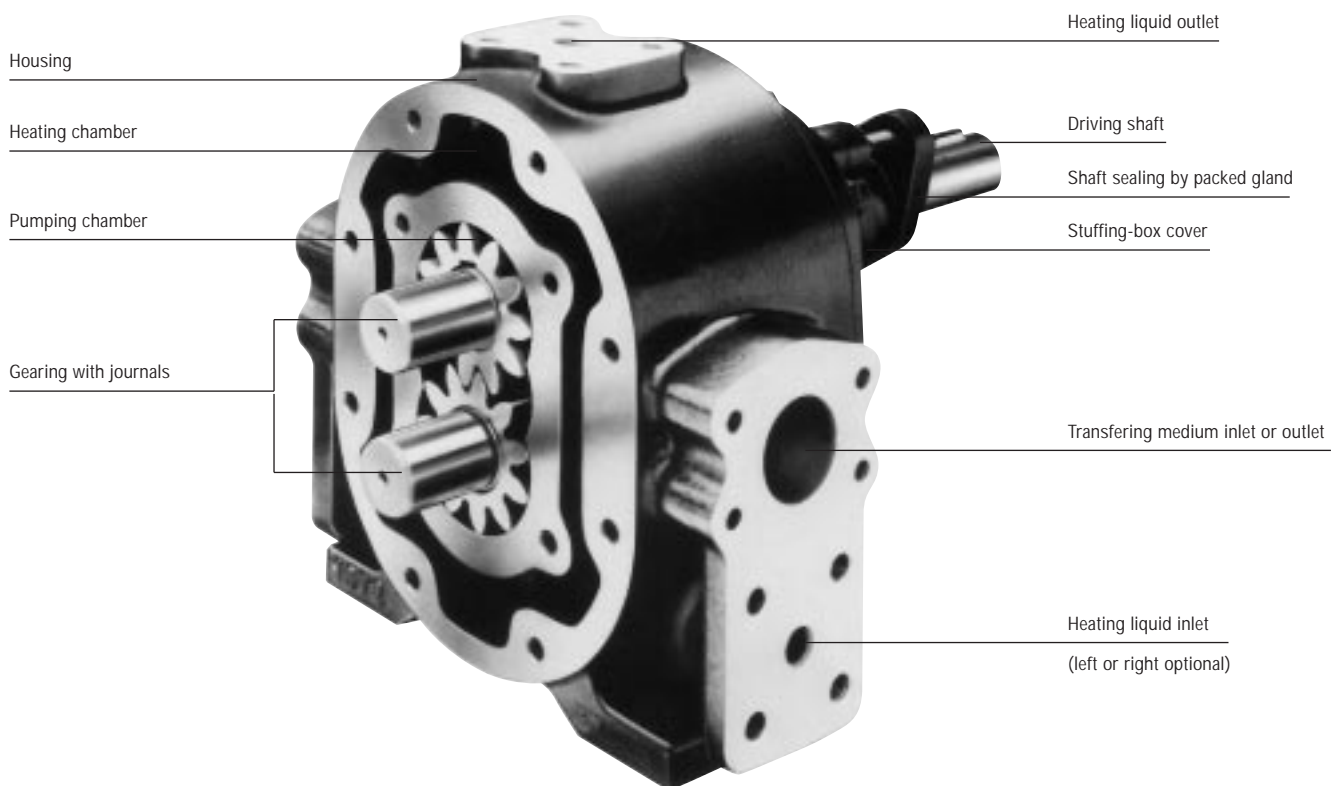
**Transfer Gear Pumps BT, BTH**

# Construction of the Gear Pumps BT, BTH

## Basic construction of BT (rear bearing cover removed)



## Basic construction of BTH (rear bearing cover removed)



## Description

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Pump series BT and BTH are low speed gear pumps for transferring medium and high viscosity fluids, provided they have certain minimum amount of lubricating property, do not contain any solids and are chemically compatible with the materials of construction.

The standard material of construction for housing, bearing cover and stuffing box cover is grey cast iron. The shafts and gears are manufactured from case hardening steel, hardened and ground. The shafts are carried in plain bearings manufactured in bronze, with an option of sintered iron.

The rotary shaft seal is a packed gland consisting of PTFE filled Aramid yarn, and the static sealing between mating parts is by means of either, liquid sealant or gaskets. All sealing materials are asbestos free.

External axial loads are not permissible, restricted radial loads can be absorbed, dependant on their magnitude and direction.

Driving by flexible shaft coupling is preferred.

In the case of fluids which require elevated temperatures to flow i. e. bitumen, wax etc. the BTH series pump should be used. In this model the housing is double walled to provide a heating jacket. The pump transfer chamber is heated by circulating heat transfer fluid or steam through the jacket.

The standard range of models is complimented by a range of a special models described below.

The pump size BT2 can be supplied in a corrosion and acid - resistant construction (stainless steel body and gear) with carbone plain bearings bushes; the operating pressure of this pump is limited to 5 bars.

BT1 up to BT4 pumps can be manufactured with bronze housing and with further combinations of stainless steel gears and shafts or bronze gears and stainless steel shafts.

**For use on liquids with an abrasive nature and high corrosive effects like resins, certain paints and varnishes as well as glues a special construction, Code No. / 04, is recommended, which is available for pump sizes BT1 up to BT7.**

**In this model all pump parts which are in contact with the transferring fluid are protected from wear and corrosion by a chemically deposited Ni/SiC- dispersion layer. This treatment substantially extends the service life compared with that of a standard model when used in these types of fluid.**

# Characteristics

## General Characteristics

|                                       |  |
|---------------------------------------|--|
| Mounting                              | Foot-Mounting  |
| Pipe Connection                       | BT: Whitworth-Pipe thread<br>BTH: Whitworth-Pipe thread Flange,<br>Flange with counterflange |
| Direction of Rotation                 | BT = Clockwise <b>and</b> Anticlockwise<br>BTH = Clockwise <b>or</b> Anticlockwise           |
| Weight                                | see page 8 ... 11  |
| Fitting Position                      | horizontal   |
| Permissible Ambient Temperature Range | $\vartheta_{u \min}$ = - 10 °C<br>$\vartheta_{u \max}$ = 60 °C                               |

## Operating Characteristics

|                                     |   |
|-------------------------------------|---|
| Operating Pressures                 |   |
| Suction Side                        | $p_{e \min}$ = - 0.4 bar  |
| Pressure Side *                     | $p_N$ = 8 bar<br>1 bar to BT0<br>5 bar to BT2 Stainless Steel   |
| max. pressure in the heating jacket | $p_H$ = 10 bar  |
| Temperature Range                   | $\vartheta_{m \min}$ = - 10 °C<br>$\vartheta_{m \max}$ = 220 °C   |
| Viscosity Range                     | $v_{\min}$ = 76 mm <sup>2</sup> /s<br>$v_{\max}$ = 30 000 mm <sup>2</sup> /s<br>Viscosities other than within this range on request |
| Discharge Flow                      | see table page 6, 7   |
| Power input Speeds                  | $n_{\min}$ = 100 1/min<br>$n_{\max}$ = 750 1/min  |

## Mediums, suitable to be operated

|                             |                           |                     |           |
|-----------------------------|---------------------------|---------------------|-----------|
| Lubricating-, Cutting Oils  | Waste Oils                | Adhesives, Plastics | Cellulose |
| Soluble-, Steel Hardening-, | Bitumen                   | Binding Agents      | etc.      |
| Rolling-, Drawing Oils      | Paints                    | Resins              |           |
| Diesel Oils                 | Greases                   | Glue, Glue Liquors  |           |
| Fuel Oil S                  | Synthetic-Resin Varnishes | Molasses            |           |
| Engine Oils                 | Nitrocellulose Lacquers   | Waxes               |           |

## Other Types

DM Pump with electric motor, Coupling and Coupling guard mounted on a common base plate.

## Accessories


Flexible Coupling

\* higher operating pressure on request

# Type Key and Ordering Code

| Direction of rotation                | Pipe connection                     | Construction of housing and friction bearing                            | Construction of gear unit   | Kind of sealing (Packing) |
|--------------------------------------|-------------------------------------|---|---|---------------------------|
| <b>R</b> clockwise                   | <b>Z</b> Whitworth pipe thread      | <b>A</b> cast iron without bearing bush                                 | <b>C</b> Steel shafts and gear unhardened                                   | <b>51</b> Arolan          |
| <b>L</b> anticlockwise               | <b>F</b> Flange                     | <b>B</b> cast iron with Bz bearing bush                                 | <b>K</b> Steel shafts and gear hardened                                     |                           |
| <b>B</b> clockwise and anticlockwise | <b>G</b> Flange with counter flange | <b>C</b> iron bearing bush  | <b>F</b> Steel shafts and gear hardened                                     |                           |
|                                      |                                     | <b>U</b> Bronze without bearing bush                                    | <b>S</b> Stainless steel shaft (material No. 1.4057) bronze gear            |                           |
|                                      |                                     | <b>R</b> Stainless steel with carbon-bearing bush (material No. 1.4308) | <b>T</b> Stainless steel shafts and gear heat treated (material No. 1.4057) |                           |



Model with heating jacket  
Cylindrical shaft end without step bearing, with packing and threaded pipe connection


|    |       |    |                               |         |
|----|-------|----|-------------------------------|---------|
| BT | 0     | BZ | OAC                           | 51 / •  |
| BT | 2     | BZ | ORT                           | 51 / •  |
| BT | 1...4 | BZ | OU <sup>S</sup> <sub>T</sub>  | 51 / •  |
| BT | 1...7 | BZ | O <sup>B</sup> <sub>C</sub> K | 51 / •  |
| BT | 1...7 | BZ | OCK                           | 51 / 04 |

Code No. for special constructions

|           |                                    |
|-----------|------------------------------------|
| <b>04</b> | Wear and corrosion protected model |
|-----------|------------------------------------|

|     |       |                               |                               |    |
|-----|-------|-------------------------------|-------------------------------|----|
| BTH | 1 + 2 | <sup>R</sup> / <sub>L</sub> • | O <sup>B</sup> <sub>C</sub> K | 51 |
| BTH | 3     | <sup>R</sup> / <sub>L</sub> • | O <sup>B</sup> <sub>C</sub> F | 51 |



Model with heating jacket  
Cylindrical shaft end without step bearing, with packing, threaded pipe- or flange connection

# Characteristic Data

| Pump type | V <sub>g</sub><br>(cm <sup>3</sup> /r) | p<br>(bar) | n = 100 1/min           |                                  |      |      | n = 200 1/min           |                                  |      |      | n = 300 1/min           |                                  |      |      |      |      |      |
|-----------|--|------------|-------------------------|----------------------------------|------|------|-------------------------|----------------------------------|------|------|-------------------------|----------------------------------|------|------|------|------|------|
|           |  |            | Q<br>(l/min)            | Viscosity v (mm <sup>2</sup> /s) |      |      | Q<br>(l/min)            | Viscosity v (mm <sup>2</sup> /s) |      |      | Q<br>(l/min)            | Viscosity v (mm <sup>2</sup> /s) |      |      |      |      |      |
|           |  |            |                         | 76                               | 760  | 3800 |                         | 7600                             | 76   | 760  |                         | 3800                             | 7600 | 76   | 760  | 3800 | 7600 |
|           |  |            | reg. power input P (kW) |                                  |      |      | reg. power input P (kW) |                                  |      |      | reg. power input P (kW) |                                  |      |      |      |      |      |
| BT 0      | 4                                      | 1          | –                       | –                                | –    | –    | –                       | 0,6                              | 0,07 | 0,07 | 0,15                    | –                                | 0,9  | 0,07 | 0,07 | 0,15 | –    |
| BT 1      | 32                                     | 2          | 2,5                     | 0,07                             | 0,07 | 0,07 | 0,07                    | 5                                | 0,07 | 0,07 | 0,15                    | 0,15                             | 7,5  | 0,07 | 0,15 | 0,22 | 0,22 |
|           |  | 4          |                         | 0,07                             | 0,07 | 0,07 | 0,07                    |                                  | 0,07 | 0,15 | 0,22                    | 0,15                             |      | 0,15 | 0,22 | 0,3  |      |
|           |  | 6          |                         | 0,07                             | 0,07 | 0,07 | 0,07                    |                                  | 0,07 | 0,15 | 0,22                    | 0,15                             |      | 0,15 | 0,22 | 0,3  |      |
|           |  | 8          |                         | 0,07                             | 0,07 | 0,07 | 0,15                    |                                  | 0,07 | 0,15 | 0,22                    | 0,22                             |      | 0,15 | 0,22 | 0,3  |      |
| BT 2      | 43                                     | 2          | 4                       | 0,07                             | 0,07 | 0,15 | 0,15                    | 8                                | 0,07 | 0,15 | 0,22                    | 0,3                              | 12   | 0,07 | 0,22 | 0,37 | 0,44 |
|           |  | 4          |                         | 0,07                             | 0,07 | 0,15 | 0,15                    |                                  | 0,07 | 0,15 | 0,3                     | 0,37                             |      | 0,15 | 0,3  | 0,44 |      |
|           |  | 6          |                         | 0,07                             | 0,07 | 0,15 | 0,15                    |                                  | 0,15 | 0,22 | 0,3                     | 0,37                             |      | 0,22 | 0,3  | 0,44 |      |
|           |  | 8          |                         | 0,07                             | 0,15 | 0,15 | 0,22                    |                                  | 0,15 | 0,22 | 0,37                    | 0,37                             |      | 0,22 | 0,37 | 0,52 |      |
| BT 3      | 91                                     | 2          | 8                       | 0,07                             | 0,15 | 0,22 | 0,22                    | 16                               | 0,15 | 0,22 | 0,44                    | 0,52                             | 24   | 0,15 | 0,37 | 0,6  | 0,74 |
|           |  | 4          |                         | 0,07                             | 0,15 | 0,22 | 0,3                     |                                  | 0,15 | 0,3  | 0,44                    | 0,6                              |      | 0,3  | 0,44 | 0,74 |      |
|           |  | 6          |                         | 0,15                             | 0,15 | 0,3  | 0,3                     |                                  | 0,22 | 0,37 | 0,52                    | 0,6                              |      | 0,37 | 0,52 | 0,81 |      |
|           |  | 8          |                         | 0,15                             | 0,22 | 0,3  | 0,37                    |                                  | 0,3  | 0,37 | 0,6                     | 0,66                             |      | 0,44 | 0,6  | 0,88 |      |
| BT 4      | 197                                    | 2          | 16                      | 0,15                             | 0,22 | 0,37 | 0,52                    | 32                               | 0,22 | 0,44 | 0,81                    | 1,03                             | 48   | 0,3  | 0,66 | 1,18 | 1,47 |
|           |  | 4          |                         | 0,15                             | 0,3  | 0,44 | 0,6                     |                                  | 0,37 | 0,6  | 0,86                    | 1,18                             |      | 0,52 | 0,88 | 1,4  |      |
|           |  | 6          |                         | 0,22                             | 0,37 | 0,52 | 0,6                     |                                  | 0,44 | 0,66 | 1,03                    | 1,25                             |      | 0,66 | 1,03 | 1,55 |      |
|           |  | 8          |                         | 0,3                              | 0,37 | 0,6  | 0,66                    |                                  | 0,6  | 0,74 | 1,1                     | 1,33                             |      | 0,81 | 1,18 | 1,7  |      |
| BT 5      | 254                                    | 2          | 24                      | 0,22                             | 0,37 | 0,66 | 0,74                    | 48                               | 0,44 | 0,74 | 1,25                    | 1,55                             | 72   | 0,52 | 1,03 | 1,9  | 2,4  |
|           |  | 4          |                         | 0,3                              | 0,44 | 0,74 | 0,88                    |                                  | 0,6  | 0,88 | 1,47                    | 1,77                             |      | 0,81 | 1,4  | 2,3  |      |
|           |  | 6          |                         | 0,37                             | 0,52 | 0,81 | 0,96                    |                                  | 0,74 | 1,1  | 1,7                     | 2,0                              |      | 1,03 | 1,7  | 2,5  |      |
|           |  | 8          |                         | 0,44                             | 0,6  | 0,88 | 1,03                    |                                  | 0,88 | 1,25 | 1,84                    | 2,13                             |      | 1,25 | 1,9  | 2,7  |      |
| BT 6      | 352                                    | 2          | 34                      | 0,3                              | 0,52 | 0,88 | 1,1                     | 68                               | 0,6  | 0,96 | 1,77                    | 2,2                              | 102  | 0,66 | 1,47 | 2,7  | 3,3  |
|           |  | 4          |                         | 0,44                             | 0,66 | 1,03 | 1,25                    |                                  | 0,88 | 1,25 | 2,06                    | 2,5                              |      | 1,1  | 1,9  | 3,1  |      |
|           |  | 6          |                         | 0,6                              | 0,74 | 1,18 | 1,4                     |                                  | 1,1  | 1,47 | 2,28                    | 2,7                              |      | 1,47 | 2,2  | 3,5  |      |
|           |  | 8          |                         | 0,66                             | 0,88 | 1,25 | 1,47                    |                                  | 1,33 | 1,7  | 2,5                     | 2,95                             |      | 1,77 | 2,6  | 3,8  |      |
| BT 7      | 494                                    | 2          | 48                      | 0,37                             | 0,66 | 1,25 | 1,55                    | 96                               | 0,74 | 1,33 | 2,4                     | 3,0                              | 144  | 0,96 | 2,06 | 3,7  | 4,7  |
|           |  | 4          |                         | 0,52                             | 0,88 | 1,47 | 1,77                    |                                  | 1,1  | 1,77 | 2,9                     | 3,5                              |      | 1,55 | 2,65 | 4,4  |      |
|           |  | 6          |                         | 0,66                             | 1,03 | 1,62 | 1,9                     |                                  | 1,47 | 2,06 | 3,2                     | 3,8                              |      | 2,06 | 3,2  | 4,8  |      |
|           |  | 8          |                         | 0,88                             | 1,18 | 1,77 | 2,06                    |                                  | 1,77 | 2,36 | 3,5                     | 5,0                              |      | 2,43 | 3,6  | 5,2  |      |
| BTH 1/55  | 97                                     | 2          | 9,5                     | 0,07                             | 0,15 | 0,3  | 0,3                     | 19                               | 0,15 | 0,3  | 0,52                    | 0,66                             | 28,5 | 0,22 | 0,44 | 0,81 | 0,96 |
|           |  | 4          |                         | 0,15                             | 0,22 | 0,3  | 0,37                    |                                  | 0,22 | 0,37 | 0,6                     | 0,74                             |      | 0,37 | 0,6  | 0,88 |      |
|           |  | 6          |                         | 0,15                             | 0,22 | 0,3  | 0,37                    |                                  | 0,3  | 0,44 | 0,66                    | 0,77                             |      | 0,44 | 0,66 | 0,96 |      |
|           |  | 8          |                         | 0,22                             | 0,22 | 0,37 | 0,44                    |                                  | 0,44 | 0,52 | 0,74                    | 0,81                             |      | 0,52 | 0,74 | 1,1  |      |
| BTH 1/105 | 186                                    | 2          | 17                      | 0,15                             | 0,3  | 0,52 | 0,6                     | 34                               | 0,3  | 0,52 | 0,96                    | 1,18                             | 51   | 0,37 | 0,81 | 1,4  | 1,8  |
|           |  | 4          |                         | 0,22                             | 0,37 | 0,6  | 0,66                    |                                  | 0,44 | 0,66 | 1,1                     | 1,33                             |      | 0,6  | 1,03 | 1,6  |      |
|           |  | 6          |                         | 0,3                              | 0,4  | 0,62 | 0,74                    |                                  | 0,6  | 0,81 | 1,25                    | 1,47                             |      | 0,81 | 1,18 | 1,8  |      |
|           |  | 8          |                         | 0,37                             | 0,44 | 0,66 | 0,81                    |                                  | 0,74 | 0,88 | 1,33                    | 1,55                             |      | 0,96 | 1,4  | 2,0  |      |
| BTH 2/100 | 393                                    | 2          | 38                      | 0,3                              | 0,52 | 0,96 | 1,18                    | 76                               | 0,6  | 1,03 | 1,84                    | 2,3                              | 114  | 0,74 | 1,6  | 2,7  | 3,6  |
|           |  | 4          |                         | 0,44                             | 0,66 | 1,1  | 1,33                    |                                  | 0,88 | 1,33 | 2,14                    | 2,6                              |      | 1,18 | 2,0  | 3,2  |      |
|           |  | 6          |                         | 0,6                              | 0,81 | 1,25 | 1,47                    |                                  | 1,1  | 1,62 | 2,43                    | 2,9                              |      | 1,55 | 2,4  | 3,6  |      |
|           |  | 8          |                         | 0,66                             | 0,88 | 1,33 | 1,55                    |                                  | 1,33 | 1,84 | 2,65                    | 3,1                              |      | 1,9  | 2,7  | 3,9  |      |
| BTH 2/130 | 510                                    | 2          | 50                      | 0,37                             | 0,66 | 1,25 | 1,55                    | 100                              | 0,74 | 1,3  | 2,4                     | 3,0                              | 150  | 1,0  | 2,1  | 3,7  | 4,7  |
|           |  | 4          |                         | 0,52                             | 0,88 | 1,47 | 1,77                    |                                  | 1,1  | 1,8  | 2,9                     | 3,5                              |      | 1,6  | 2,7  | 4,3  |      |
|           |  | 6          |                         | 0,66                             | 1,03 | 1,62 | 1,9                     |                                  | 1,5  | 2,1  | 3,2                     | 3,8                              |      | 2,1  | 3,2  | 4,8  |      |
|           |  | 8          |                         | 0,88                             | 1,18 | 1,77 | 2,1                     |                                  | 1,8  | 2,4  | 3,5                     | 4,0                              |      | 2,4  | 3,6  | 5,3  |      |
| BTH 3/150 | 1056                                   | 2          | 100                     | 0,88                             | 1,47 | 2,6  | 3,2                     | 200                              | 1,5  | 2,9  | 5,1                     | 6,3                              | 300  | 2,2  | 4,4  | 7,7  | 9,4  |
|           |  | 4          |                         | 1,18                             | 1,84 | 3,0  | 3,6                     |                                  | 2,4  | 3,7  | 6,0                     | 7,1                              |      | 3,3  | 5,5  | 8,8  |      |
|           |  | 6          |                         | 1,47                             | 2,14 | 3,3  | 3,8                     |                                  | 3,0  | 4,3  | 6,5                     | 7,7                              |      | 4,2  | 6,4  | 9,7  |      |
|           |  | 8          |                         | 1,84                             | 2,43 | 3,6  | 4,2                     |                                  | 3,7  | 4,9  | 7,1                     | 8,3                              |      | 5,1  | 7,3  | 10,6 |      |

## Power input required at high viscosities

Viscosities above values specified in the table require a higher power input.

In such cases the power input of the pump P<sub>1Pu</sub> can be determined by means of the viscosity factor f<sub>v</sub> (see table page 7) as follows:

$$P_{1Pu} = P_{Tab\ 76} + f_v \cdot Q_{Tab}$$

For example: BT 4 n = 200 1/min; v = 10 000 mm<sup>2</sup>/s; p = 8 bar with

P<sub>tab 76</sub> = 0,6 kW, table data at v = 76 mm<sup>2</sup>/s

f<sub>v</sub> = 27 x 10<sup>-3</sup> kW min/l

Q<sub>Tab</sub> = 32 l/min

gives power input P<sub>1Pu</sub> = 1,46 kW

# Characteristic Data

| Pump type        | V <sub>g</sub><br>(cm <sup>3</sup> /r) | p<br>(bar) | n = 400 1/min           |                                  |      |      | n = 500 1/min           |                                  |      |      | n = 600 1/min           |                                  |      |      | n = 700 1/min           |                                  |      |      |
|------------------|--|------------|-------------------------|----------------------------------|------|------|-------------------------|----------------------------------|------|------|-------------------------|----------------------------------|------|------|-------------------------|----------------------------------|------|------|
|                  |  |            | Q<br>(l/min)            | Viscosity v (mm <sup>2</sup> /s) |      |      | Q<br>(l/min)            | Viscosity v (mm <sup>2</sup> /s) |      |      | Q<br>(l/min)            | Viscosity v (mm <sup>2</sup> /s) |      |      | Q<br>(l/min)            | Viscosity v (mm <sup>2</sup> /s) |      |      |
|                  |  |            |                         | 76                               | 760  | 3800 |                         | 76                               | 760  | 3800 |                         | 76                               | 760  | 3000 |                         | 76                               | 760  | 2000 |
|                  |  |            | reg. power input P (kW) |                                  |      |      | reg. power input P (kW) |                                  |      |      | reg. power input P (kW) |                                  |      |      | reg. power input P (kW) |                                  |      |      |
| <b>BT 0</b>      | 4                                      | 1          | 1,2                     | 0,07                             | 0,15 | –    | 1,5                     | 0,07                             | 0,15 | –    | 1,8                     | 0,07                             | 0,15 | –    | 2,1                     | 0,07                             | 0,15 | –    |
| <b>BT 1</b>      | 32                                     | 2          | 10                      | 0,07                             | 0,15 | 0,3  | 12,5                    | 0,07                             | 0,2  | 0,35 | 15                      | 0,08                             | 0,2  | 0,34 | 17,5                    | 0,09                             | 0,23 | 0,32 |
|                  |  | 4          |                         | 0,15                             | 0,22 | 0,37 |                         | 0,15                             | 0,25 | 0,4  |                         | 0,18                             | 0,3  | 0,44 |                         | 0,21                             | 0,35 | 0,44 |
|                  |  | 6          |                         | 0,15                             | 0,22 | 0,37 |                         | 0,2                              | 0,3  | 0,45 |                         | 0,24                             | 0,36 | 0,5  |                         | 0,28                             | 0,42 | 0,51 |
|                  |  | 8          |                         | 0,22                             | 0,3  | 0,44 |                         | 0,22                             | 0,35 | 0,5  |                         | 0,26                             | 0,38 | 0,52 |                         | 0,3                              | 0,44 | 0,53 |
| <b>BT 2</b>      | 43                                     | 2          | 16                      | 0,15                             | 0,3  | 0,6  | 20                      | 0,15                             | 0,37 | 0,66 | 24                      | 0,18                             | 0,37 | 0,48 | 28                      | 0,21                             | 0,43 | 0,57 |
|                  |  | 4          |                         | 0,22                             | 0,37 | 0,66 |                         | 0,27                             | 0,44 | 0,74 |                         | 0,32                             | 0,51 | 0,62 |                         | 0,37                             | 0,59 | 0,73 |
|                  |  | 6          |                         | 0,3                              | 0,37 | 0,74 |                         | 0,34                             | 0,52 | 0,81 |                         | 0,4                              | 0,59 | 0,8  |                         | 0,47                             | 0,69 | 0,83 |
|                  |  | 8          |                         | 0,3                              | 0,44 | 0,96 |                         | 0,37                             | 0,26 | 1,03 |                         | 0,45                             | 0,64 | 0,85 |                         | 0,53                             | 0,75 | 0,89 |
| <b>BT 3</b>      | 91                                     | 2          | 32                      | 0,22                             | 0,44 | 1,03 | 40                      | 0,3                              | 0,6  | 1,1  | 48                      | 0,36                             | 0,74 | 1,18 | 56                      | 0,42                             | 0,87 | 1,15 |
|                  |  | 4          |                         | 0,37                             | 0,6  | 1,1  |                         | 0,44                             | 0,74 | 1,18 |                         | 0,53                             | 0,91 | 1,35 |                         | 0,62                             | 1,07 | 1,35 |
|                  |  | 6          |                         | 0,44                             | 0,66 | 1,25 |                         | 0,6                              | 0,88 | 1,33 |                         | 0,72                             | 1,1  | 1,54 |                         | 0,84                             | 1,29 | 1,57 |
|                  |  | 8          |                         | 0,52                             | 0,74 | 1,33 |                         | 0,66                             | 0,96 | 1,4  |                         | 0,8                              | 1,18 | 1,62 |                         | 0,93                             | 1,38 | 1,66 |
| <b>BT 4</b>      | 197                                    | 2          | 64                      | 0,44                             | 0,88 | 2,0  | 80                      | 0,52                             | 1,1  | 2,06 | 96                      | 0,63                             | 1,11 | 2,26 | 112                     | 0,74                             | 1,64 | 2,2  |
|                  |  | 4          |                         | 0,66                             | 1,18 | 2,2  |                         | 0,88                             | 1,47 | 2,36 |                         | 1,05                             | 1,53 | 2,68 |                         | 1,23                             | 2,13 | 2,69 |
|                  |  | 6          |                         | 0,88                             | 1,33 | 2,43 |                         | 1,1                              | 1,7  | 2,58 |                         | 1,32                             | 1,8  | 2,95 |                         | 1,54                             | 2,44 | 3,0  |
|                  |  | 8          |                         | 1,03                             | 1,55 | 2,58 |                         | 1,33                             | 1,9  | 2,8  |                         | 1,6                              | 2,08 | 3,23 |                         | 1,87                             | 2,77 | 3,33 |
| <b>BT 5</b>      | 254                                    | 2          | 96                      | 0,66                             | 1,4  | 3,2  | 120                     | 0,81                             | 1,8  | 3,3  | 144                     | 1,0                              | 2,2  | 3,4  | 168                     | 1,2                              | 2,5  | 3,4  |
|                  |  | 4          |                         | 1,03                             | 1,8  | 3,5  |                         | 1,33                             | 2,3  | 3,8  |                         | 1,6                              | 2,8  | 4,0  |                         | 1,9                              | 3,2  | 4,1  |
|                  |  | 6          |                         | 1,4                              | 2,2  | 3,9  |                         | 1,77                             | 2,7  | 4,2  |                         | 2,1                              | 3,3  | 4,5  |                         | 2,5                              | 3,8  | 4,7  |
|                  |  | 8          |                         | 1,7                              | 2,5  | 4,2  |                         | 2,14                             | 3,1  | 4,6  |                         | 2,6                              | 3,8  | 5,0  |                         | 3,0                              | 4,3  | 5,2  |
| <b>BT 6</b>      | 352                                    | 2          | 136                     | 0,88                             | 1,9  | 4,4  | 170                     | 1,1                              | 2,4  | 4,6  | 204                     | 1,3                              | 2,9  | 4,8  | 238                     | 1,5                              | 3,5  | 4,6  |
|                  |  | 4          |                         | 1,47                             | 2,5  | 5,0  |                         | 1,9                              | 3,2  | 5,2  |                         | 2,3                              | 3,9  | 5,8  |                         | 2,7                              | 4,6  | 5,8  |
|                  |  | 6          |                         | 1,9                              | 3,0  | 5,4  |                         | 2,4                              | 3,8  | 5,8  |                         | 2,9                              | 4,5  | 6,4  |                         | 3,4                              | 5,3  | 6,5  |
|                  |  | 8          |                         | 2,4                              | 3,4  | 6,0  |                         | 3,0                              | 4,3  | 6,2  |                         | 3,6                              | 5,2  | 7,1  |                         | 4,2                              | 6,1  | 7,3  |
| <b>BT 7</b>      | 494                                    | 2          | 192                     | 1,3                              | 2,7  | 6,1  | 240                     | 1,6                              | 3,4  | 6,2  | 288                     | 1,9                              | 4,2  | 6,8  | 336                     | 2,2                              | 4,9  | 6,6  |
|                  |  | 4          |                         | 2,0                              | 3,6  | 6,9  |                         | 2,6                              | 4,4  | 7,2  |                         | 3,1                              | 5,4  | 8,0  |                         | 3,6                              | 6,3  | 8,0  |
|                  |  | 6          |                         | 2,7                              | 4,2  | 7,6  |                         | 3,4                              | 5,2  | 8,0  |                         | 4,1                              | 6,4  | 9,0  |                         | 4,7                              | 7,4  | 9,1  |
|                  |  | 8          |                         | 3,3                              | 4,7  | 8,1  |                         | 4,0                              | 6,0  | 8,7  |                         | 4,8                              | 7,1  | 9,7  |                         | 5,6                              | 8,3  | 10,0 |
| <b>BTH 1/55</b>  | 97                                     | 2          | 38                      | 0,3                              | 0,6  | 1,25 | 47,5                    | 0,37                             | 0,74 | 1,3  | 57                      | 0,44                             | 0,9  | 1,4  | 66,5                    | 0,52                             | 1,05 | 1,4  |
|                  |  | 4          |                         | 0,44                             | 0,74 | 1,4  |                         | 0,6                              | 0,96 | 1,5  |                         | 0,72                             | 1,18 | 1,7  |                         | 0,84                             | 1,37 | 1,7  |
|                  |  | 6          |                         | 0,6                              | 0,88 | 1,55 |                         | 0,74                             | 1,1  | 1,7  |                         | 0,89                             | 1,35 | 1,9  |                         | 1,04                             | 1,57 | 1,9  |
|                  |  | 8          |                         | 0,66                             | 0,96 | 1,7  |                         | 0,88                             | 1,25 | 1,8  |                         | 1,06                             | 1,52 | 2,0  |                         | 1,23                             | 1,76 | 2,1  |
| <b>BTH 1/105</b> | 186                                    | 2          | 68                      | 0,52                             | 1,1  | 2,4  | 85                      | 0,66                             | 1,3  | 2,4  | 102                     | 0,79                             | 1,6  | 2,5  | 119                     | 0,92                             | 1,9  | 2,5  |
|                  |  | 4          |                         | 0,81                             | 1,4  | 2,6  |                         | 1,03                             | 1,7  | 2,8  |                         | 1,24                             | 2,1  | 3,0  |                         | 1,45                             | 2,4  | 3,0  |
|                  |  | 6          |                         | 1,03                             | 1,6  | 2,9  |                         | 1,33                             | 2,0  | 3,1  |                         | 1,59                             | 2,4  | 3,3  |                         | 1,86                             | 2,8  | 3,4  |
|                  |  | 8          |                         | 1,25                             | 1,8  | 3,1  |                         | 1,6                              | 2,3  | 3,4  |                         | 1,92                             | 2,7  | 3,7  |                         | 2,23                             | 3,2  | 3,8  |
| <b>BTH 2/100</b> | 393                                    | 2          | 152                     | 0,96                             | 2,1  | 4,7  | 190                     | 1,2                              | 2,6  | 4,7  | 228                     | 1,4                              | 3,2  | 5,3  | 266                     | 1,7                              | 3,8  | 5,2  |
|                  |  | 4          |                         | 1,55                             | 2,7  | 5,3  |                         | 1,9                              | 3,3  | 5,5  |                         | 2,3                              | 4,1  | 6,2  |                         | 2,6                              | 4,7  | 6,1  |
|                  |  | 6          |                         | 2,1                              | 3,2  | 5,8  |                         | 2,6                              | 4,0  | 6,1  |                         | 3,1                              | 4,9  | 7,0  |                         | 3,6                              | 5,7  | 7,1  |
|                  |  | 8          |                         | 2,5                              | 3,7  | 6,2  |                         | 3,2                              | 4,6  | 6,6  |                         | 3,8                              | 5,6  | 7,7  |                         | 4,5                              | 6,6  | 8,0  |
| <b>BTH 2/130</b> | 510                                    | 2          | 200                     | 1,3                              | 2,8  | 6,1  | 250                     | 1,6                              | 3,4  | 6,2  | 300                     | 1,9                              | 4,3  | 7,0  | 350                     | 2,2                              | 5,0  | 6,8  |
|                  |  | 4          |                         | 2,1                              | 3,6  | 6,9  |                         | 2,6                              | 4,4  | 7,2  |                         | 3,1                              | 5,5  | 8,2  |                         | 3,6                              | 6,4  | 8,2  |
|                  |  | 6          |                         | 2,7                              | 4,2  | 7,6  |                         | 3,4                              | 5,3  | 8,0  |                         | 4,1                              | 6,5  | 9,2  |                         | 4,8                              | 7,6  | 9,4  |
|                  |  | 8          |                         | 3,3                              | 4,7  | 8,1  |                         | 4,1                              | 6,0  | 8,7  |                         | 4,9                              | 7,3  | 10,0 |                         | 5,8                              | 8,6  | 10,4 |
| <b>BTH 3/150</b> | 1056                                   | 2          | 400                     | 2,8                              | 5,8  | 10,2 | 500                     | 3,5                              | 7,2  | 12,7 | 600                     | 4,2                              | 9,0  | 14,4 | 700                     | 4,9                              | 10,5 | 14,0 |
|                  |  | 4          |                         | 4,4                              | 7,4  | 11,8 |                         | 5,5                              | 9,2  | 14,7 |                         | 6,6                              | 11,4 | 16,8 |                         | 7,7                              | 13,3 | 16,8 |
|                  |  | 6          |                         | 5,6                              | 8,6  | 13,0 |                         | 7,0                              | 10,7 | 16,2 |                         | 8,5                              | 13,3 | 18,7 |                         | 9,9                              | 15,5 | 19,0 |
|                  |  | 8          |                         | 6,8                              | 9,7  | 14,1 |                         | 7,7                              | 12,2 | 17,7 |                         | 9,2                              | 14,0 | 19,4 |                         | 10,7                             | 16,3 | 19,8 |

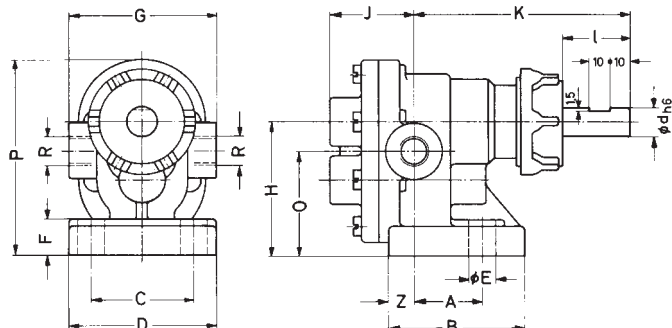
|   |      |      |      |      |       |       |       |
|---|------|------|------|------|-------|-------|-------|
| kin. viscosity<br>v <<br>mm <sup>2</sup> /s                 | 1000 | 2000 | 3000 | 6000 | 10000 | 20000 | 30000 |
| max. speed<br>n <sub>max</sub> ≥<br>1/min                   | 750  | 600  | 500  | 400  | 300   | 200   | 100   |
| visc.-factor<br>f <sub>v</sub><br>10 <sup>-3</sup> kW min/l | 9,5  | 14   | 17   | 22,5 | 27    | 34    | 38    |

Spread of output:  
± 5% of table values Q. Viscosities below  
76 mm<sup>2</sup>/s effect a decrease of output flow  
values, Q.  
The power output of driving motor must  
exceed the table values P by about 20%.

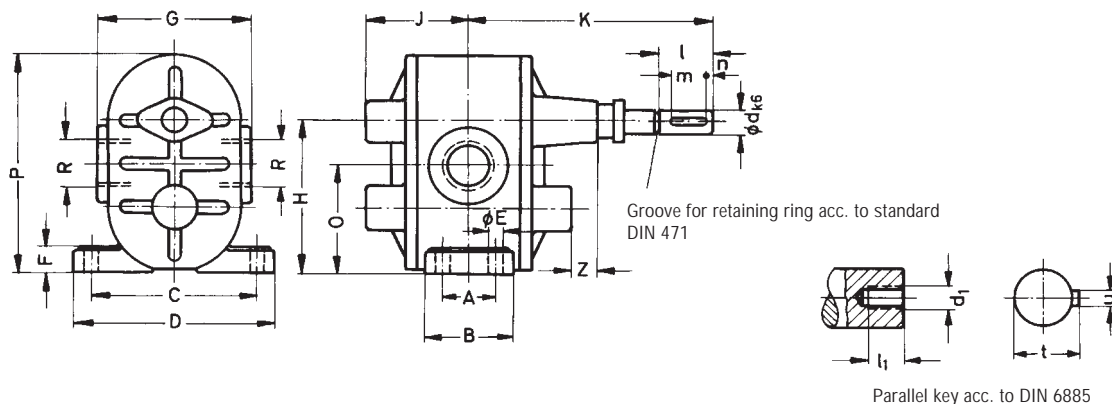
Important:  
When determining the power input requir-  
ed always consider the max. operating  
viscosity.  
(e.g. in the starting situation)!

# Dimensions

## BT 0 BZ OAC 51



## BT 1...7 BZ O.. 51 BT 1...7 BZ OCK 51/04



| Pump type | R       | A  | B   | C   | D   | øE | F  | G   | H     | O    | J   | K   | P   | Shaft end |    |    |    |   |      |                | Z  | approx. weight kg |                |
|-----------|---------|----|-----|-----|-----|----|----|-----|-------|------|-----|-----|-----|-----------|----|----|----|---|------|----------------|----|-------------------|----------------|
|           |         |    |     |     |     |    |    |     |       |      |     |     |     | ød        | l  | m  | n  | u | t    | d <sub>1</sub> |    |                   | l <sub>1</sub> |
| BT 0      | G 1/4   | 30 | 60  | 45  | 65  | 11 | 15 | 65  | 60    | 47   | 38  | 95  | 88  | 13        | 22 | -  | -  | - | -    | -              | -  | 11                | 2              |
| BT 1      | G 1/2   | -  | 45  | 55  | 75  | 9  | 12 | 85  | 69    | 54   | 48  | 150 | 100 | 13        | 40 | 15 | 10 | 5 | 15   | M6             | 15 | 20                | 3              |
| BT 2      | G 3/4   | 35 | 55  | 65  | 90  | 10 | 12 | 90  | 88,5  | 71   | 65  | 165 | 125 | 15        | 45 | 25 | 5  | 5 | 17   | M6             | 15 | 20                | 5              |
| BT 3      | G 1     | 40 | 65  | 85  | 105 | 10 | 12 | 100 | 111   | 88,5 | 70  | 190 | 155 | 18        | 50 | 30 | 5  | 6 | 20,5 | M6             | 15 | 23                | 7              |
| BT 4      | G 1 1/2 | 40 | 80  | 95  | 135 | 10 | 12 | 130 | 131,5 | 100  | 102 | 245 | 189 | 25        | 50 | 40 | 5  | 8 | 28   | M8             | 20 | 28                | 15             |
| BT 5      | G 1 1/2 | 35 | 75  | 140 | 180 | 14 | 20 | 150 | 145   | 103  | 98  | 250 | 213 | 25        | 50 | 40 | 5  | 8 | 28   | M8             | 20 | 29                | 20             |
| BT 6      | G 2     | 35 | 75  | 185 | 225 | 14 | 28 | 175 | 175   | 126  | 106 | 245 | 252 | 25        | 50 | 40 | 5  | 8 | 28   | M8             | 20 | 29                | 29             |
| BT 7      | G 2     | 60 | 100 | 185 | 225 | 14 | 28 | 240 | 175   | 126  | 123 | 260 | 252 | 25        | 50 | 40 | 5  | 8 | 28   | M8             | 20 | 29                | 37             |

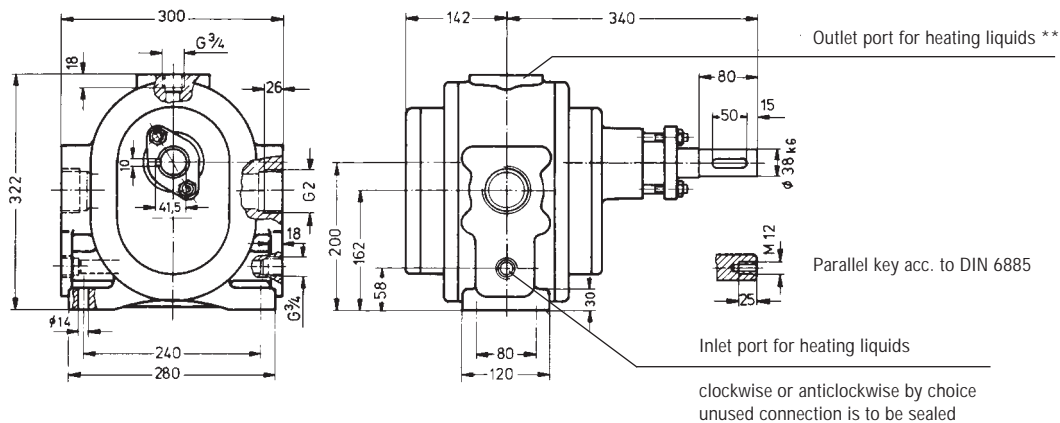
Inlet and outlet ports equally sized



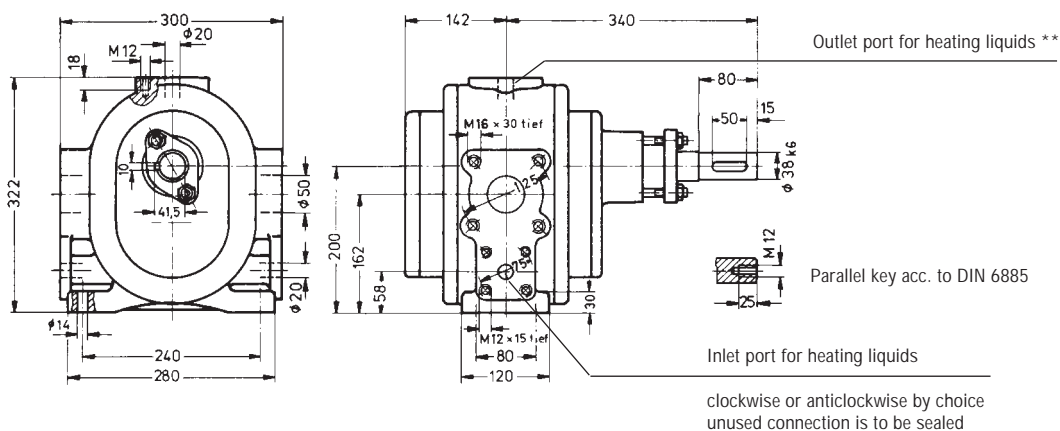


# Dimensions

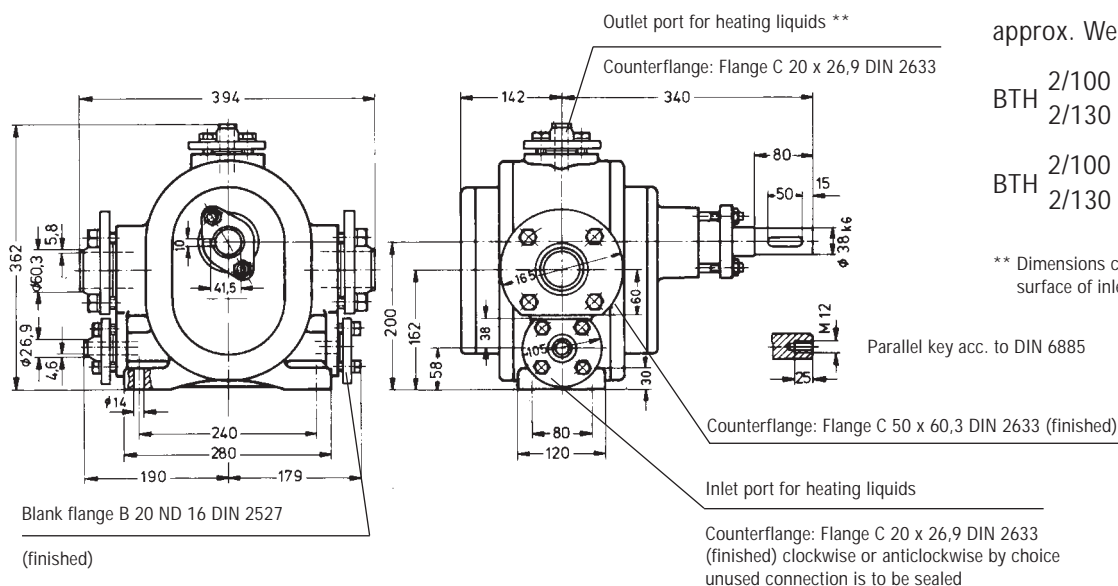
**BTH 2 / 100 • Z 0 • K 51**  
130



**BTH 2 / 100 • F 0 • K 51**  
130



**BTH 2 / 100 • G 0 • K 51**  
130



approx. Weight (kg)

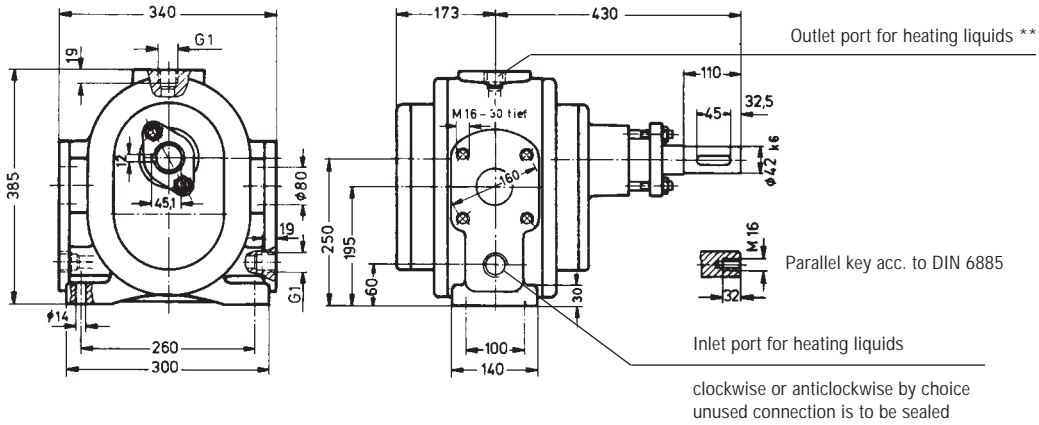
BTH 2/100 Z; F = 84 kg  
2/130 Z; F = 85 kg

BTH 2/100 G = 93 kg  
2/130 G = 94 kg

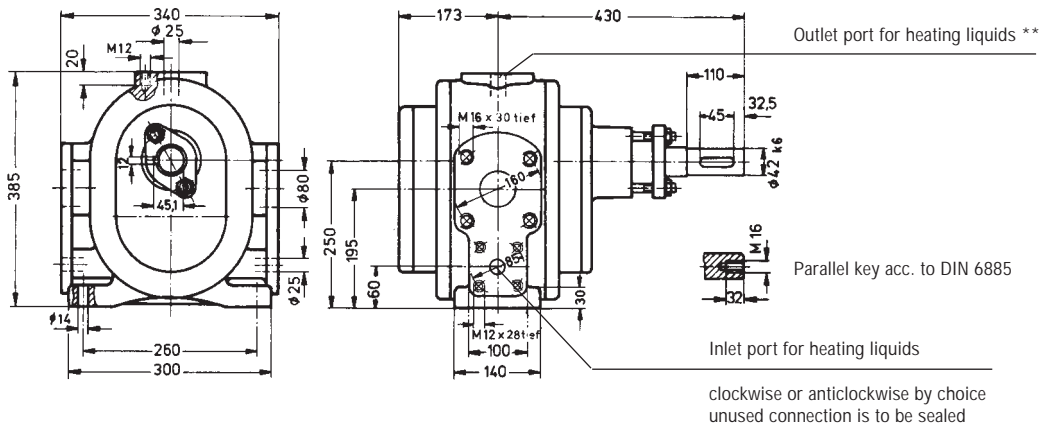
\*\* Dimensions correspond to mounting surface of inlet port for heating liquids

# Dimensions

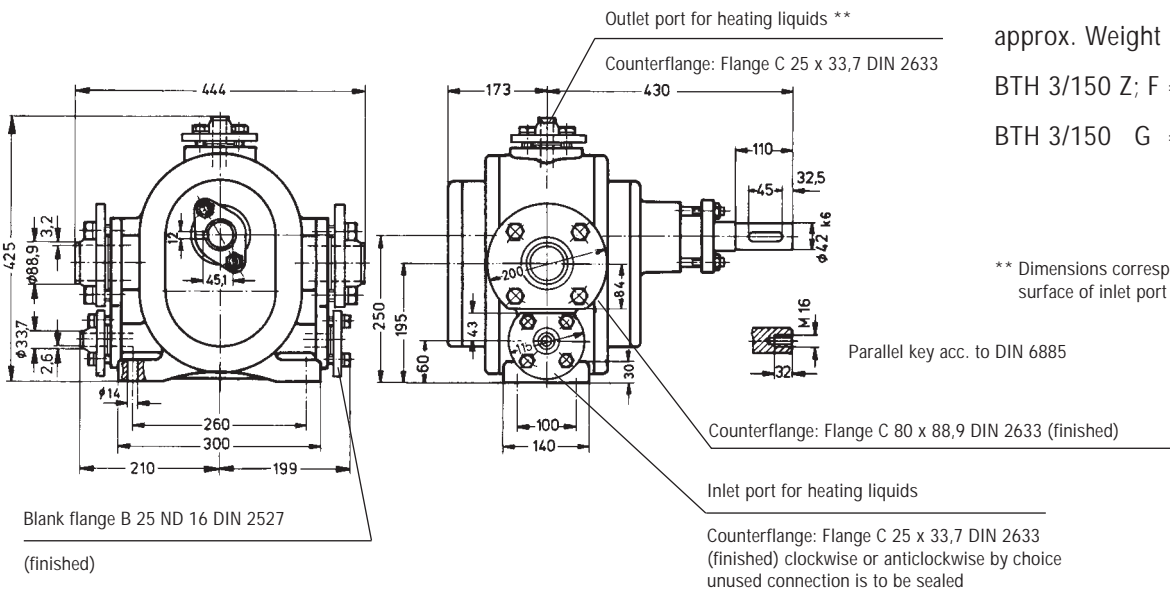
## BTH 3 / 150 • Z O • F 51



## BTH 3 / 150 • F O • F 51



## BTH 3 / 150 • G O • F 51



approx. Weight (kg)

BTH 3/150 Z; F = 142 kg

BTH 3/150 G = 155 kg

\*\* Dimensions correspond to mounting surface of inlet port for heating liquids

## Overview of our complete program

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Transfer pumps for lubricating oil supply equipment, low pressure filling and feed systems, dosing and mixing systems.

### Volutronic®

Gear flow meters and electronics for volume and flow metering technology in hydraulics, processing and laquering technology.

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Cetop directional control and proportional valves, hydraulic cylinders, pressure, quantity and stop valves for pipe and slab construction, hydraulic accessories for industrial hydraulics (mobile and stationary use).

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BT/BTH.e.10.99