

# Options

## Additional Cooling

### 1. Oil circulation lubrication system for better cooling

Gearbox is supplied ready for connection to an external oil supply. The external oil supply consists of at least an oil tank, air-oil cooler, an oil pump and pipework between oil tank and gearbox.

### 2. Cooling packs

Gearbox heat dissipation is increased through mounted aluminium fins

### 3. Cooling packs with additional fan

Gearbox heat dissipation is increased through mounted aluminium fins and an additional radial fan

### 4. Water cooling

Gearbox is supplied ready for connection to an external water cooler. The oil reservoir is cooled by a cooling coil.



## Oil pressure lubrication

For high speeds it may be necessary to use a forced lubrication for the gear teeth and bearings.

To achieve this, the gearbox is connected to an external pressure lubrication system (similar to the circulation lubrication system).

Oil pressure lubrication can also be combined with additional cooling.

**Standard is splash lubrication.**



## Viton shaft seals

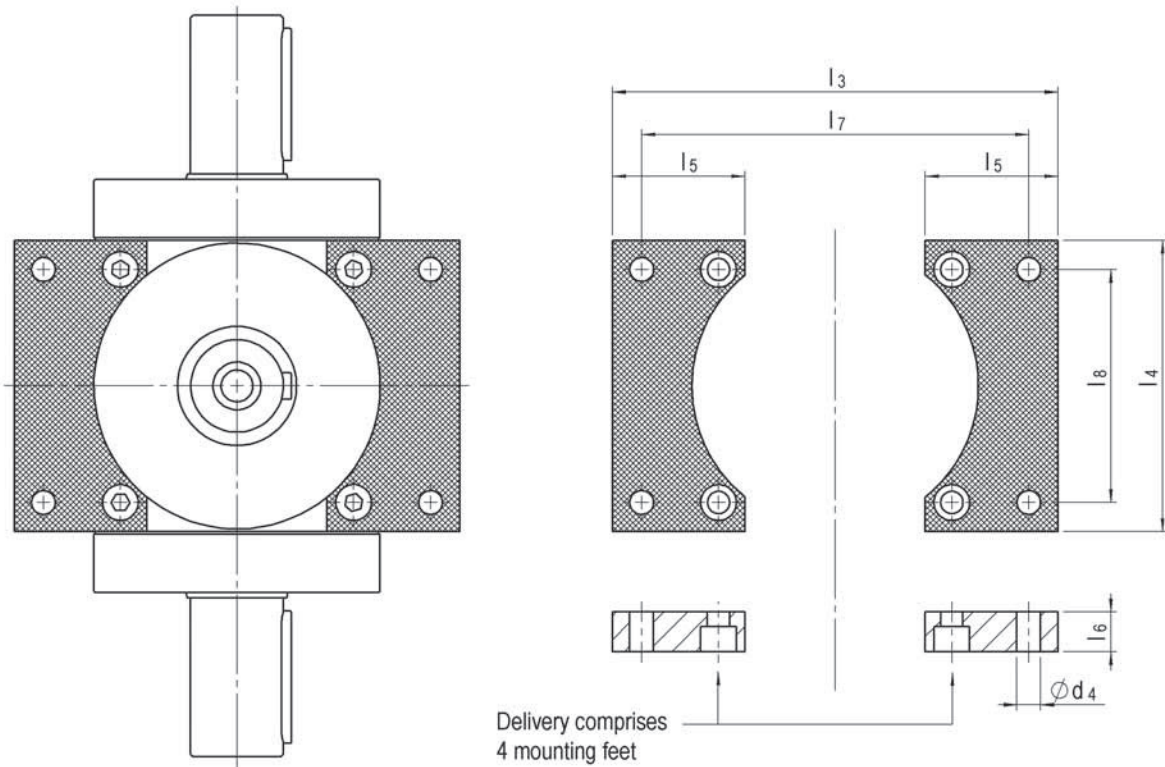
Necessary, if high gearbox temperatures are expected

## Square motor flange

For all F Series gearboxes (standard = round flanges)

## Gearboxes with minimal backlash

See performance tables page 6-8



## Universal mounting feet

|      | l 3 (mm) | l 4 (mm)<br>- 0.5 | l 5 (mm) | l 6 (mm) | l 7 (mm)<br>+ - 0.2 | l 8 (mm)<br>+ - 0.2 | Ød4 (mm) | Cylindrical<br>screw DIN 912 | Weight per<br>pair (kg) |
|------|----------|-------------------|----------|----------|---------------------|---------------------|----------|------------------------------|-------------------------|
| P075 | 122      | 75                | 40       | 17       | 108                 | 60                  | 6.6      | M 6 x 12                     | 0.6                     |
| P090 | 145      | 90                | 45       | 17       | 125                 | 72                  | 6.6      | M 6 x 12                     | 0.8                     |
| P110 | 168      | 110               | 50       | 17       | 146                 | 88                  | 9.0      | M 8 x 18                     | 1.1                     |
| P140 | 208      | 140               | 60       | 20       | 178                 | 110                 | 11.0     | M 10 x 25                    | 1.9                     |
| P170 | 250      | 170               | 70       | 20       | 215                 | 134                 | 14.0     | M 12 x 25                    | 2.7                     |
| P210 | 310      | 210               | 90       | 25       | 265                 | 170                 | 18.0     | M 16 x 35                    | 5.2                     |
| P240 | 345      | 240               | 100      | 30       | 295                 | 190                 | 18.0     | M 16 x 35                    | 8.0                     |
| P280 | 385      | 280               | 100      | 30       | 335                 | 220                 | 18.0     | M 16 x 35                    | 9.6                     |
| P360 | 480      | 360               | 125      | 30       | 430                 | 280                 | 22.0     | M 20 x 40                    | 15.0                    |
| P450 | 580      | 450               | 140      | 30       | 520                 | 350                 | 22.0     | M 20 x 40                    | 21.2                    |

## Oil filling

Our gearbox sizes P54 to P140 (X75 to X14) are filled as standard with synthetic oil.  
For sizes P170 to P450 (X170 to X280), oil filling requires additional ordering.  
On request, we can also fill the gearboxes with **food quality recognised (USDA) oil**.

## Shorter shafts

Possible for existing shafts

## Plain shafts

(Without keyways) are possible

## Customised designs

Further customised designs available on request.