

# TCM

## FD & FGE 1.5 - 3.2 technical specifications



**STANDARD SPECIFICATIONS**

| September 2013            |   | Counterbalance trucks<br>Designation according VDI 3586   | Data sheet for materials handling equipment |                               |              |              | VDI 2198<br>Registration note |
|---------------------------|---|---|---|-------------------------------|--------------|--------------|-------------------------------|
|                           |   | Manufacturers Data and Design Characteristics             |   |                               |              |              |                               |
| <b>CHARACTERISTICS</b>    | 1.1   | Manufacturer  | UniCarriers                                 |                               |              |              |                               |
|                           | 1.2   | Model name  | FGE15-E1                                    | FD15-E1                       | FGE18-E1     | FD18-E1      |                               |
|                           |   | Model code  | P1D1A15LH                                   | Y1D1A15H                      | P1D1A18LH    | Y1D1A18H     |                               |
|                           | 1.3   | Power unit: Electric, Diesel, Gasoline, LPG, others       | LPG   | Diesel                        | LPG          | Diesel       |                               |
|                           | 1.4   | Operation: Sit, Hand, Pedestrian, Standing, Order picking | Sit   | Sit                           | Sit          | Sit          |                               |
|                           | 1.5   | Load capacity   | Q (t)                                       | 1.5                           | 1.5          | 1.75         | 1.75                          |
|                           | 1.6   | Load centre   | c (mm)                                      | 500                           | 500          | 500          | 500                           |
|                           | 1.8   | Front overhang  | x (mm)                                      | 400                           | 400          | 405          | 405                           |
|                           | 1.9   | Wheel base  | y (mm)                                      | 1415                          | 1415         | 1415         | 1415                          |
| <b>WEIGHTS</b>            | 2.1   | Service weight (without battery)                          | kg  | 2625 *1                       | 2765         | 2845 *1      | 2985                          |
|                           | 2.2   | Axle load with load, front/rear                           | kg  | 3665/460                      | 3705/560     | 4065/530     | 4105/630                      |
|                           | 2.3   | Axle load without load, front/rear                        | kg  | 1210/1415                     | 1250/1515    | 1195/1650    | 1235/1750                     |
| <b>WHEELS &amp; TIRES</b> | 3.1   | Tyres front/rear (C=Cushion,SE=superelastic,P=pneumatic)  | P/P   |                               |              |              |                               |
|                           | 3.2   | Tyre size, front  | 6.50-10-14PR                                | 6.50-10-14PR                  | 6.50-10-14PR | 6.50-10-14PR |                               |
|                           | 3.3   | Tyre size, rear   | 5.00-8-8PR                                  | 5.00-8-8PR                    | 5.00-8-8PR   | 5.00-8-8PR   |                               |
|                           | 3.5   | Wheels, number front/rear (x=powered)                     | 2x/2  | 2x/2                          | 2x/2         | 2x/2         |                               |
|                           | 3.6   | Tread, front  | b10 (mm)                                    | 890                           | 890          | 890          | 890                           |
|                           | 3.7   | Tread, rear   | b11 (mm)                                    | 900                           | 900          | 900          | 900                           |
|                           | <b>DIMENSIONS</b>   | 4.1   | Tilt Mast/carriage, forward/backward        | $\alpha/\beta$ (°)            | 6/12         | 6/12         | 6/12                          |
| 4.2                       |   | Height mast fully lowered                                 | $h_1$ (mm)                                  | 1995                          | 1995         | 1995         | 1995                          |
| 4.3                       |   | Free lift   | $h_2$ (mm)                                  | 150                           | 150          | 155          | 155                           |
| 4.4                       |   | Lift height   | $h_3$ (mm)                                  | 3000                          | 3000         | 3000         | 3000                          |
| 4.5                       |   | Height mast fully extended                                | $h_4$ (mm)                                  | 3945                          | 3945         | 3945         | 3945                          |
| 4.7                       |   | Overhead guard height                                     | $h_6$ (mm)                                  | 2115                          | 2115         | 2115         | 2115                          |
| 4.8                       |   | Seat height/Standing height                               | $h_7$ (mm)                                  | 1025                          | 1025         | 1025         | 1025                          |
| 4.12                      |   | Towing coupler height                                     | $h_{10}$ (mm)                               | 245                           | 245          | 245          | 245                           |
| 4.19                      |   | Overall length  | $l_1$ (mm)                                  | 3360                          | 3360         | 3400         | 3400                          |
| 4.20                      |   | Length to fork face                                       | $l_2$ (mm)                                  | 2260                          | 2260         | 2300         | 2300                          |
| 4.21                      |   | Overall width <sup>1</sup>                                | $b_1$ (mm)                                  | 1080                          | 1080         | 1080         | 1080                          |
| 4.22                      |   | Fork dimensions   | s,e,l (mm)                                  | 35x100x1100                   | 35x100x1100  | 40x100x1100  | 40x100x1100                   |
| 4.23                      |   | Carriage DIN 15173, Class / Form A,B                      |   | 2A                            | 2A           | 2A           | 2A                            |
| 4.24                      |   | Carriage width  | $b_3$ (mm)                                  | 920                           | 920          | 920          | 920                           |
| 4.31                      |   | Mast underclearance loaded                                | $m_1$ (mm)                                  | 115                           | 115          | 115          | 115                           |
| 4.32                      |   | Underclearance centre wheelbase                           | $m_2$ (mm)                                  | 145                           | 145          | 145          | 145                           |
| 4.33                      | Right angle stacking aisle with pallet 1000x1200 across forks | $A_{st}$ (mm)   | 3570  | 3570                          | 3600         | 3600         |                               |
| 4.34                      | Right angle stacking aisle with pallet 800x1200 across forks  | $A_{st}$ (mm)   | 3380  | 3380                          | 3400         | 3400         |                               |
| 4.35                      | Turning radius  | $W_a$ (mm)  | 1970  | 1970                          | 2000         | 2000         |                               |
| 4.36                      | Turning radius, inner   | $b_{13}$ (mm)   | 135   | 135                           | 135          | 135          |                               |
| <b>PERFORMANCE</b>        | 5.1   | Travelling speed with/without load                        | km/h  | 18.5/18.5                     | 18/18        | 18.5/18.5    | 18/18                         |
|                           | 5.2   | Lifting speed with/without load                           | mm/s  | 580/630                       | 590/650      | 580/630      | 590/650                       |
|                           | 5.3   | Lowering speed with/without load                          | mm/s  | 520/520                       | 520/520      | 520/520      | 520/520                       |
|                           | 5.5   | Drawbar pull, with/without load                           | kN  | 15.3/9.1                      | 16/9.9       | 15.3/9.1     | 16/9.9                        |
|                           | 5.7   | Gradeability with/without load                            | %   | 39/23                         | 38/23        | 35/20        | 36/20                         |
|                           | 5.9   | Acceleration with/without load                            | s   | 4.4/3.8                       | 4.3/3.8      | 4.5/3.9      | 4.5/3.9                       |
|                           | 5.10  | Service brake   |   | Hydraulic                     |              |              |                               |
| <b>DRIVE</b>              | 7.1   | Engine manufacturer/type                                  |   | K21                           | QD32         | K21          | QD32                          |
|                           | 7.2   | Engine rated power according ISO 1585                     | kW  | 41.5                          | 36           | 41.5         | 36                            |
|                           | 7.3   | Rated engine revolutions                                  | min <sup>-1</sup>                           | 2700                          | 2150         | 2700         | 2150                          |
|                           | 7.4   | Number of cylinders/Displacement                          | cm <sup>3</sup>                             | 4/2065                        | 4/3153       | 4/2065       | 4/3153                        |
|                           | 7.5   | Fuel consumption according VDI cycle (60 cycles/hour)     | l/h; kg/h                                   | 2.4                           | 2.5          | 2.6          | 2.7                           |
| <b>OTHERS</b>             | 8.1   | Type of drive control                                     |   | Torque converter <sup>1</sup> |              |              |                               |
|                           | 8.2   | Working pressure attachments                              | bar   | 130                           | 130          | 130          | 130                           |
|                           | 8.4   | Noise level operator's ear according EN12053              | dB(A)                                       | 77*2                          | 79           | 77*2         | 79                            |

\*) Excluding the weight for LPG bottle \*\*) Noise level at operator's ear in ECO-mode



## DIMENSIONS

### MAST SPECIFICATIONS & RATED CAPACITIES: FD & FGE: 1.5 TONNE

| Mast type                       | Mast name | Maximum fork height | Overall height |                  |                 | Free lift        |              | Tilt angle Forward/backward | Load capacity <sup>2</sup> |
|---------------------------------|-----------|---------------------|----------------|------------------|-----------------|------------------|--------------|-----------------------------|----------------------------|
|                                 |           |                     | Fully lowered  | Fully extended   |                 | Without backrest | Std backrest |                             | Load center 500 mm         |
|                                 |           |                     |                | Without backrest | Std backrest    |                  |              |                             | 1.5 tonne                  |
|                                 |           |                     |                | mm <sup>1</sup>  | mm <sup>1</sup> |                  |              |                             |                            |
| TWO STAGE WIDE VIEW             | 2W300     | 3000                | 1995           | 3640             | 3945            | 150              | 150          | 6/12                        | 1500                       |
|                                 | 2W330     | 3300                | 2145           | 3940             | 4245            | 150              | 150          | 6/12                        | 1500                       |
|                                 | 2W350     | 3500                | 2280           | 4140             | 4445            | 150              | 150          | 6/12                        | 1500                       |
|                                 | 2W370     | 3700                | 2405           | 4340             | 4645            | 150              | 150          | 6/12                        | 1500                       |
|                                 | 2W400     | 4000                | 2595           | 4640             | 4945            | 150              | 150          | 6/6                         | 1500                       |
|                                 | 2W450     | 4500                | 2845           | 5140             | 5445            | 150              | 150          | 6/6                         | 1450                       |
|                                 | 2W500     | 5000                | 3095           | 5640             | 5945            | 150              | 150          | 6/6                         | 1350                       |
| TWO STAGE FULL FREE             | 2F300     | 3000                | 1995           | 3675             | 3945            | 1355             | 1085         | 6/12                        | 1500                       |
|                                 | 2F330     | 3300                | 2145           | 3975             | 4245            | 1505             | 1235         | 6/12                        | 1500                       |
|                                 | 2F350     | 3500                | 2280           | 4175             | 4445            | 1640             | 1370         | 6/12                        | 1500                       |
|                                 | 2F370     | 3700                | 2405           | 4375             | 4645            | 1765             | 1495         | 6/12                        | 1500                       |
|                                 | 2F400     | 4000                | 2595           | 4675             | 4945            | 1955             | 1685         | 6/6                         | 1500                       |
| THREE STAGE FULL FREE           | 3F385     | 3850                | 1845           | 4525             | 4795            | 1205             | 935          | 6/6                         | 1500                       |
|                                 | 3F430     | 4300                | 1995           | 4975             | 5245            | 1355             | 1085         | 6/6                         | 1400                       |
|                                 | 3F475     | 4750                | 2145           | 5425             | 5695            | 1505             | 1235         | 6/6                         | 1350                       |
|                                 | 3F515     | 5150                | 2280           | 5825             | 6095            | 1640             | 1370         | 6/6                         | 1300                       |
|                                 | 3F550     | 5500                | 2405           | 6175             | 6445            | 1765             | 1495         | 6/6                         | 1250 *                     |
|                                 | 3F600     | 6000                | 2595           | 6675             | 6945            | 1955             | 1685         | 6/6                         | 1100 #                     |
|                                 | 3F650     | 6500                | 2845           | 7175             | 7445            | 2205             | 1935         | 6/6                         | 850 #                      |
|                                 | 3F700     | 7000                | 3095           | 7675             | 7945            | 2455             | 2185         | 6/6                         | 700 #                      |
| THREE STAGE FULL FREE WIDE VIEW | 3V360     | 3600                | 1845           | 4225             | 4545            | 1165             | 935          | 6/6                         | 1450                       |
|                                 | 3V405     | 4050                | 1995           | 4675             | 4995            | 1315             | 1085         | 6/6                         | 1400                       |
|                                 | 3V450     | 4500                | 2145           | 5125             | 5445            | 1465             | 1235         | 6/6                         | 1350                       |
|                                 | 3V490     | 4900                | 2280           | 5525             | 5845            | 1595             | 1370         | 6/6                         | 1250                       |
|                                 | 3V525     | 5250                | 2405           | 5875             | 6195            | 1725             | 1495         | 6/6                         | 1250 *                     |
|                                 | 3V575     | 5750                | 2595           | 6375             | 6695            | 1915             | 1685         | 6/6                         | 1150 #                     |
|                                 | 3V633     | 6330                | 2845           | 6955             | 7275            | 2165             | 1935         | 6/6                         | 850 #                      |
|                                 | 3V688     | 6880                | 3095           | 7505             | 7825            | 2415             | 2185         | 6/6                         | 700 #                      |

### MAST SPECIFICATIONS & RATED CAPACITIES: FD & FGE: 1.8 TONNE

| Mast type                       | Mast name | Max. fork height | Overall height |                  |                 | Free lift        |              | Tilt angle Forward/backward | Load capacity <sup>2</sup> |
|---------------------------------|-----------|------------------|----------------|------------------|-----------------|------------------|--------------|-----------------------------|----------------------------|
|                                 |           |                  | Fully lowered  | Fully extended   |                 | Without backrest | Std backrest |                             | Load center 500 mm         |
|                                 |           |                  |                | Without backrest | Std backrest    |                  |              |                             | 1.8 tonne                  |
|                                 |           |                  |                | mm <sup>1</sup>  | mm <sup>1</sup> |                  |              |                             |                            |
| TWO STAGE WIDE VIEW             | 2W300     | 3000             | 1995           | 3640             | 3945            | 155              | 155          | 6/12                        | 1750                       |
|                                 | 2W330     | 3300             | 2145           | 3940             | 4245            | 155              | 155          | 6/12                        | 1750                       |
|                                 | 2W350     | 3500             | 2280           | 4140             | 4445            | 155              | 155          | 6/12                        | 1750                       |
|                                 | 2W370     | 3700             | 2405           | 4340             | 4645            | 155              | 155          | 6/12                        | 1750                       |
|                                 | 2W400     | 4000             | 2595           | 4640             | 4945            | 155              | 155          | 6/6                         | 1700                       |
|                                 | 2W450     | 4500             | 2845           | 5140             | 5445            | 155              | 155          | 6/6                         | 1600                       |
|                                 | 2W500     | 5000             | 3095           | 5640             | 5945            | 155              | 155          | 6/6                         | 1550                       |
| TWO STAGE FULL FREE             | 2F300     | 3000             | 1995           | 3675             | 3945            | 1360             | 1090         | 6/12                        | 1750                       |
|                                 | 2F330     | 3300             | 2145           | 3975             | 4245            | 1510             | 1240         | 6/12                        | 1750                       |
|                                 | 2F350     | 3500             | 2280           | 4175             | 4445            | 1645             | 1375         | 6/12                        | 1750                       |
|                                 | 2F370     | 3700             | 2405           | 4375             | 4645            | 1770             | 1500         | 6/12                        | 1750                       |
|                                 | 2F400     | 4000             | 2595           | 4675             | 4945            | 1960             | 1690         | 6/6                         | 1750 *                     |
| THREE STAGE FULL FREE           | 3F385     | 3850             | 1845           | 4525             | 4795            | 1210             | 940          | 6/6                         | 1700                       |
|                                 | 3F430     | 4300             | 1995           | 4975             | 5245            | 1360             | 1090         | 6/6                         | 1650                       |
|                                 | 3F475     | 4750             | 2145           | 5425             | 5695            | 1510             | 1240         | 6/6                         | 1550                       |
|                                 | 3F515     | 5150             | 2280           | 5825             | 6095            | 1645             | 1375         | 6/6                         | 1450 *                     |
|                                 | 3F550     | 5500             | 2405           | 6175             | 6445            | 1770             | 1500         | 6/6                         | 1350 *                     |
|                                 | 3F600     | 6000             | 2595           | 6675             | 6945            | 1960             | 1690         | 6/6                         | 1200 #                     |
|                                 | 3F650     | 6500             | 2845           | 7175             | 7445            | 2210             | 1940         | 6/6                         | 850 #                      |
|                                 | 3F700     | 7000             | 3095           | 7675             | 7945            | 2460             | 2190         | 6/6                         | 700 #                      |
| THREE STAGE FULL FREE WIDE VIEW | 3V360     | 3600             | 1845           | 4225             | 4545            | 1170             | 940          | 6/6                         | 1650                       |
|                                 | 3V405     | 4050             | 1995           | 4675             | 4995            | 1320             | 1090         | 6/6                         | 1600                       |
|                                 | 3V450     | 4500             | 2145           | 5125             | 5445            | 1470             | 1240         | 6/6                         | 1500                       |
|                                 | 3V490     | 4900             | 2280           | 5525             | 5845            | 1600             | 1375         | 6/6                         | 1400                       |
|                                 | 3V525     | 5250             | 2405           | 5875             | 6195            | 1730             | 1500         | 6/6                         | 1300 *                     |
|                                 | 3V575     | 5750             | 2595           | 6375             | 6695            | 1920             | 1690         | 6/6                         | 1250 #                     |
|                                 | 3V633     | 6330             | 2845           | 6955             | 7275            | 2170             | 1940         | 6/6                         | 900 #                      |
|                                 | 3V688     | 6880             | 3095           | 7505             | 7825            | 2420             | 2190         | 6/6                         | 700 #                      |

<sup>1</sup>) 1 inch = 25.4 mm 1 kg = 0.4536 lb <sup>2</sup>) With single pneumatic tyres unless indicated \* ) Load capacity with single super elastic tyres #)Load capacity with double tyres. Truck width: 1480 mm

**STANDARD SPECIFICATIONS**

| September 2013            |                   | Counterbalance trucks<br>Designation according VDI 3586       | Data sheet for materials handling equipment |                                |              |                 |              |                 |              |                 | VDI 2198<br>Registration note |      |
|---------------------------|-------------------|---|---|--------------------------------|--------------|-----------------|--------------|-----------------|--------------|-----------------|-------------------------------|------|
|                           |                   | Manufacturers Data and Design Characteristics                 |   |                                |              |                 |              |                 |              |                 |                               |      |
| <b>CHARACTERISTICS</b>    | 1.1               | Manufacturer  | UniCarriers                                 |                                |              |                 |              |                 |              |                 |                               |      |
|                           | 1.2               | Model name  | FGE20-E1                                    | FD20-E1                        | FGE25-E1     | FD25-E1         | FGE30-E1     | FD30-E1         | FGE32-E1     | FD32-E1         |                               |      |
|                           |                   | Model code  | U1D2A20LH                                   | Y1D2A20H                       | U1D2A25LH    | Y1D2A25H        | UG1D2A30LH   | YG1D2A30H       | UG1D2A32LH   | YG1D2A32H       |                               |      |
|                           | 1.3               | Power unit: Electric, Diesel, Gasoline, LPG, others           | LPG   | Diesel                         | LPG          | Diesel          | LPG          | Diesel          | LPG          | Diesel          |                               |      |
|                           | 1.4               | Operation: Sit, Hand, Pedestrian, Standing, Order picking     | Sit   | Sit                            | Sit          | Sit             | Sit          | Sit             | Sit          | Sit             |                               |      |
|                           | 1.5               | Load capacity   | Q (t)                                       | 2.0                            | 2.0          | 2.5             | 2.5          | 3.0             | 3.0          | 3.2             | 3.2                           |      |
|                           | 1.6               | Load centre   | c (mm)                                      | 500                            | 500          | 500             | 500          | 500             | 500          | 500             | 500                           |      |
|                           | 1.8               | Front overhang  | x (mm)                                      | 455                            | 455          | 455             | 455          | 485             | 485          | 485             | 485                           |      |
|                           | 1.9               | Wheel base  | y (mm)                                      | 1650                           | 1650         | 1650            | 1650         | 1760            | 1760         | 1760            | 1760                          |      |
| <b>WEIGHTS</b>            | 2.1               | Service weight  | kg  | 3340*1                         | 3485         | 3700*1          | 3845         | 4220*1          | 4365         | 4390*1          | 4535                          |      |
|                           | 2.2               | Axle load with load, front/rear                               | kg  | 4705/635                       | 4780/705     | 5420/780        | 5490/855     | 6385/835        | 6460/910     | 6675/915        | 6750/985                      |      |
|                           | 2.3               | Axle load without load, front/rear                            | kg  | 1550/1790                      | 1625/1860    | 1475/2225       | 1545/2300    | 1705/2515       | 1780/2590    | 1685/2705       | 1760/2775                     |      |
| <b>WHEELS &amp; TIRES</b> | 3.1               | Tyres front/rear (C=Cushion,SE=superelastic,P=pneumatic)      | P/P   |                                |              |                 |              |                 |              |                 |                               |      |
|                           | 3.2               | Tyre size, front  | 7.00-12-14PR                                | 7.00-12-14PR                   | 7.00-12-14PR | 7.00-12-14PR    | 28x9-15-14PR | 28x9-15-14PR    | 28x9-15-14PR | 28x9-15-14PR    |                               |      |
|                           | 3.3               | Tyre size, rear   | 6.00-9-10PR                                 | 6.00-9-10PR                    | 6.00-9-10PR  | 6.00-9-10PR     | 6.50-10-14PR | 6.50-10-14PR    | 6.50-10-14PR | 6.50-10-14PR    |                               |      |
|                           | 3.5               | Wheels, number front/rear (x=powered)                         | 2x/2  | 2x/2                           | 2x/2         | 2x/2            | 2x/2         | 2x/2            | 2x/2         | 2x/2            |                               |      |
|                           | 3.6               | Tread, front  | b10 (mm)                                    | 965                            | 965          | 965             | 965          | 1005            | 1005         | 1005            | 1005                          |      |
|                           | 3.7               | Tread, rear   | b11 (mm)                                    | 975                            | 975          | 975             | 975          | 980             | 980          | 980             | 980                           |      |
|                           | <b>DIMENSIONS</b> | 4.1   | Tilt Mast/carriage, forward/backward        | $\alpha/\beta$ (°)             | 6/12         | 6/12            | 6/12         | 6/12            | 6/12         | 6/12            | 6/12                          | 6/12 |
| 4.2                       |                   | Height mast fully lowered                                     | $h_1$ (mm)                                  | 1995                           | 1995         | 1995            | 1995         | 2025            | 2025         | 2025            | 2025                          |      |
| 4.3                       |                   | Free lift   | $h_2$ (mm)                                  | 155                            | 155          | 155             | 155          | 160             | 160          | 160             | 160                           |      |
| 4.4                       |                   | Lift height   | $h_3$ (mm)                                  | 3000                           | 3000         | 3000            | 3000         | 3000            | 3000         | 3000            | 3000                          |      |
| 4.5                       |                   | Height mast fully extended                                    | $h_4$ (mm)                                  | 4045                           | 4045         | 4045            | 4045         | 4140            | 4140         | 4140            | 4140                          |      |
| 4.7                       |                   | Overhead guard height   | $h_6$ (mm)                                  | 2130                           | 2130         | 2130            | 2130         | 2155            | 2155         | 2155            | 2155                          |      |
| 4.8                       |                   | Seat height/Standing height                                   | $h_7$ (mm)                                  | 1040                           | 1040         | 1040            | 1040         | 1065            | 1065         | 1065            | 1065                          |      |
| 4.12                      |                   | Towing coupler height   | $h_{10}$ (mm)                               | 335                            | 335          | 335             | 335          | 365             | 365          | 365             | 365                           |      |
| 4.19                      |                   | Overall length  | $l_1$ (mm)                                  | 3630                           | 3630         | 3705            | 3705         | 3870            | 3870         | 3870            | 3870                          |      |
| 4.20                      |                   | Length to fork face   | $l_2$ (mm)                                  | 2530                           | 2530         | 2605            | 2605         | 2770            | 2770         | 2770            | 2770                          |      |
| 4.21                      |                   | Overall width <sup>1</sup>                                    | $b_1$ (mm)                                  | 1155                           | 1155         | 1155            | 1155         | 1230            | 1230         | 1230            | 1230                          |      |
| 4.22                      |                   | Fork dimensions   | s,e,l (mm)                                  | 40x100x1100                    | 40x100x1100  | 40x100x1100     | 40x100x1100  | 45x100x1100     | 45x100x1100  | 45x100x1100     | 45x100x1100                   |      |
| 4.23                      |                   | Carriage DIN 15173, Class / Form A,B                          |   | 2A                             | 2A           | 2A              | 2A           | 3A              | 3A           | 3A              | 3A                            |      |
| 4.24                      |                   | Carriage width  | $b_3$ (mm)                                  | 1020                           | 1020         | 1020            | 1020         | 1020            | 1020         | 1020            | 1020                          |      |
| 4.31                      |                   | Mast underclearance loaded                                    | $m_1$ (mm)                                  | 115                            | 115          | 115             | 115          | 145             | 145          | 145             | 145                           |      |
| 4.32                      |                   | Underclearance centre wheelbase                               | $m_2$ (mm)                                  | 165                            | 165          | 165             | 165          | 190             | 190          | 190             | 190                           |      |
| 4.33                      |                   | Right angle stacking aisle with pallet 1000x1200 across forks | Ast (mm)                                    | 3845                           | 3845         | 3905            | 3905         | 4075            | 4075         | 4075            | 4075                          |      |
| 4.34                      |                   | Right angle stacking aisle with pallet 800x1200 across forks  | Ast (mm)                                    | 3585                           | 3585         | 3705            | 3705         | 3875            | 3875         | 3875            | 3875                          |      |
| 4.35                      |                   | Turning radius  | Wa (mm)                                     | 2190                           | 2190         | 2250            | 2250         | 2390            | 2390         | 2390            | 2390                          |      |
| 4.36                      |                   | Turning radius, inner   | $b_{13}$ (mm)                               | 170                            | 170          | 170             | 170          | 160             | 160          | 160             | 160                           |      |
| <b>PERFORMANCE</b>        | 5.1               | Travelling speed with/without load                            | km/h  | 19/19                          | 18/18        | 19/19           | 18/18        | 19/19           | 18.5/18.5    | 19/19           | 18.5/18.5                     |      |
|                           | 5.2               | Lifting speed with/without load                               | mm/s  | 620/700                        | 620/660      | 620/700         | 620/660      | 520/580         | 510/550      | 470/580         | 490/550                       |      |
|                           | 5.3               | Lowering speed with/without load                              | mm/s  | 500/500                        | 500/500      | 500/500         | 500/500      | 500/500         | 500/500      | 500/500         | 500/500                       |      |
|                           | 5.5               | Drawbar pull, with/without load                               | kN  | 18.5/14.7                      | 16.5/15      | 18.5/14.7       | 16.5/15      | 17.4/17.2       | 16.7/17.5    | 17.4/16.7       | 16.7/17.4                     |      |
|                           | 5.7               | Gradeability with/without load                                | %   | 34/26                          | 29/26        | 29/22           | 24/22        | 23/23           | 21/23        | 22/21           | 20/22                         |      |
|                           | 5.9               | Acceleration with/without load                                | s   | 4.3/3.7                        | 4.6/3.9      | 4.5/3.8         | 4.8/4.0      | 4.8/4.0         | 5.2/4.2      | 4.8/4.0         | 5.3/4.3                       |      |
| <b>DRIVE</b>              | 7.1               | Engine manufacturer/type                                      |   | K25                            | QD32         | K25             | QD32         | K25             | QD32         | K25             | QD32                          |      |
|                           | 7.2               | Engine rated power according ISO 1585                         | kW  | 46.9                           | 36           | 46.9            | 36           | 46.9            | 36           | 46.9            | 36                            |      |
|                           | 7.3               | Rated engine revolutions                                      | min <sup>-1</sup>                           | 2700                           | 2150         | 2700            | 2150         | 2700            | 2150         | 2700            | 2150                          |      |
|                           | 7.4               | Number of cylinders/Displacement                              | cm <sup>3</sup>                             | 4/2488                         | 4/3153       | 4/2488          | 4/3153       | 4/2488          | 4/3153       | 4/2488          | 4/3153                        |      |
|                           | 7.5               | Fuel consumption according VDI cycle (60 cycles/hour)         | l/h; kg/h                                   | 2.3                            | 2.8          | 3.0             | 3.1          | 3.3             | 4.2          | 3.6             | 4.4                           |      |
|                           | <b>OTHERS</b>     | 8.1   | Type of drive control                       | Torque converter/ <sup>1</sup> |              |                 |              |                 |              |                 |                               |      |
| 8.2                       |                   | Working pressure attachments                                  | bar   | 130                            | 130          | 130             | 130          | 130             | 130          | 130             | 130                           |      |
| 8.4                       |                   | Noise level operator's ear according EN12053                  | dB(A)                                       | 77 <sup>2</sup>                | 78           | 77 <sup>2</sup> | 78           | 77 <sup>2</sup> | 78           | 77 <sup>2</sup> | 78                            |      |
|                           |                   |   |   |                                |              |                 |              |                 |              |                 |                               |      |

\*) Excluding the weight for LPG bottle \*\*) Noise level at operator's ear in ECO-mode



## DIMENSIONS

### MAST SPECIFICATIONS & RATED CAPACITIES: FD & FGE: 2.0 - 2.5 TONNE

| Mast type                          | Mast name | Maximum fork height | Overall height |                  |              | Free lift        |              | Tilt angle Forward/backward | Load capacity <sup>2</sup><br>Load center 500 mm |                   |
|------------------------------------|-----------|---------------------|----------------|------------------|--------------|------------------|--------------|-----------------------------|--|-------------------|
|                                    |           |                     | Fully lowered  | Fully extended   |              | Without backrest | Std backrest |                             | 2.0 tonne  | 2.5 tonne         |
|                                    |           |                     |                | Without backrest | Std backrest |                  |              |                             |  |                   |
| TWO STAGE<br>WIDE VIEW             | 2W300     | 3000                | 1995           | 3640             | 4045         | 155              | 155          | 6/12                        | 2000   | 2500              |
|                                    | 2W330     | 3300                | 2145           | 3940             | 4345         | 155              | 155          | 6/12                        | 2000   | 2500              |
|                                    | 2W350     | 3500                | 2280           | 4140             | 4545         | 155              | 155          | 6/12                        | 2000   | 2500              |
|                                    | 2W370     | 3700                | 2405           | 4340             | 4745         | 155              | 155          | 6/12                        | 2000   | 2500              |
|                                    | 2W400     | 4000                | 2595           | 4640             | 5045         | 155              | 155          | 6/6                         | 2000   | 2500              |
|                                    | 2W450     | 4500                | 2845           | 5140             | 5545         | 155              | 155          | 6/6                         | 1950   | 2400              |
|                                    | 2W500     | 5000                | 3095           | 5640             | 6045         | 155              | 155          | 6/6                         | 1850   | 2100              |
| TWO STAGE<br>FULL FREE             | 2F300     | 3000                | 1995           | 3675             | 4045         | 1360             | 990          | 6/12                        | 2000   | 2500              |
|                                    | 2F330     | 3300                | 2145           | 3975             | 4345         | 1510             | 1140         | 6/12                        | 2000   | 2500              |
|                                    | 2F350     | 3500                | 2280           | 4175             | 4545         | 1645             | 1275         | 6/12                        | 2000   | 2500              |
|                                    | 2F370     | 3700                | 2405           | 4375             | 4745         | 1770             | 1400         | 6/12                        | 2000   | 2500              |
|                                    | 2F400     | 4000                | 2595           | 4675             | 5045         | 1960             | 1590         | 6/6                         | 2000   | 2500              |
| THREE STAGE<br>FULL FREE           | 3F385     | 3850                | 1845           | 4525             | 4895         | 1210             | 840          | 6/6                         | 2000   | 2500              |
|                                    | 3F430     | 4300                | 1995           | 4975             | 5345         | 1360             | 990          | 6/6                         | 1950   | 2450 <sup>®</sup> |
|                                    | 3F475     | 4750                | 2145           | 5425             | 5795         | 1510             | 1140         | 6/6                         | 1800   | 2400 <sup>®</sup> |
|                                    | 3F515     | 5150                | 2280           | 5825             | 6195         | 1645             | 1275         | 6/6                         | 1800 <sup>®</sup>                                | 2350 <sup>®</sup> |
|                                    | 3F550     | 5500                | 2405           | 6175             | 6545         | 1770             | 1400         | 6/6                         | 1750 <sup>®</sup>                                | 2250 <sup>®</sup> |
|                                    | 3F600     | 6000                | 2595           | 6675             | 7045         | 1960             | 1590         | 6/6                         | 1650 <sup>®</sup>                                | 2100 <sup>®</sup> |
|                                    | 3F650     | 6500                | 2845           | 7175             | 7545         | 2210             | 1840         | 6/6                         | 1400 <sup>®</sup>                                | 1450 <sup>®</sup> |
|                                    | 3F700     | 7000                | 3095           | 7675             | 8045         | 2460             | 2090         | 6/6                         | 1000 <sup>®</sup>                                | 1100 <sup>®</sup> |
| THREE STAGE<br>FULL FREE WIDE VIEW | 3V360     | 3600                | 1845           | 4225             | 4645         | 1170             | 840          | 6/6                         | 1950   | 2450              |
|                                    | 3V405     | 4050                | 1995           | 4675             | 5095         | 1320             | 990          | 6/6                         | 1900   | 2400 <sup>®</sup> |
|                                    | 3V450     | 4500                | 2145           | 5125             | 5545         | 1470             | 1140         | 6/6                         | 1800   | 2350 <sup>®</sup> |
|                                    | 3V490     | 4900                | 2280           | 5525             | 5945         | 1600             | 1275         | 6/6                         | 1750 <sup>®</sup>                                | 2300 <sup>®</sup> |
|                                    | 3V525     | 5250                | 2405           | 5875             | 6295         | 1730             | 1400         | 6/6                         | 1700 <sup>®</sup>                                | 2250 <sup>®</sup> |
|                                    | 3V575     | 5750                | 2595           | 6375             | 6795         | 1920             | 1590         | 6/6                         | 1650 <sup>®</sup>                                | 2100 <sup>®</sup> |
|                                    | 3V633     | 6330                | 2845           | 6955             | 7375         | 2170             | 1840         | 6/6                         | 1500 <sup>®</sup>                                | 1700 <sup>®</sup> |
|                                    | 3V688     | 6880                | 3095           | 7505             | 7925         | 2420             | 2090         | 6/6                         | 1100 <sup>®</sup>                                | 1200 <sup>®</sup> |

<sup>1</sup> 1 inch = 25.4 mm 1 kg = 0.4536 lb <sup>2</sup> Capacity with single pneumatic tyres unless indicated <sup>®</sup> With wide, single elastic tyres. Truck width: 1285 mm

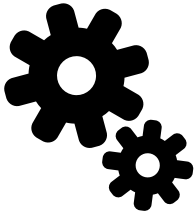
### MAST SPECIFICATIONS & RATED CAPACITIES: FD & FGE: 3.0 - 3.2 TONNE

| Mast type                          | Mast name | Maximum fork height | Overall height    |                  |              | Free lift        |              | Tilt angle Forward/backward | Load capacity <sup>2</sup><br>Load center 500 mm |                   |
|------------------------------------|-----------|---------------------|-------------------|------------------|--------------|------------------|--------------|-----------------------------|--|-------------------|
|                                    |           |                     | Fully lowered     | Fully extended   |              | Without backrest | Std backrest |                             | 3.0 tonne  | 3.2 tonne         |
|                                    |           |                     |                   | Without backrest | Std backrest |                  |              |                             |  |                   |
| TWO STAGE<br>WIDE VIEW             | 2W300     | 3000                | 2025              | 3675             | 4140         | 160              | 160          | 6/12                        | 3000   | 3200              |
|                                    | 2W330     | 3300                | 2175              | 3975             | 4440         | 160              | 160          | 6/12                        | 3000   | 3200              |
|                                    | 2W350     | 3500                | 2310              | 4175             | 4640         | 160              | 160          | 6/12                        | 3000   | 3200              |
|                                    | 2W370     | 3700                | 2435              | 4375             | 4840         | 160              | 160          | 6/12                        | 3000   | 3200              |
|                                    | 2W400     | 4000                | 2625              | 4675             | 5140         | 160              | 160          | 6/6                         | 3000   | 3200              |
|                                    | 2W450     | 4500                | 2875              | 5175             | 5640         | 160              | 160          | 6/6                         | 3000   | 3200              |
|                                    | 2W500     | 5000                | 3125              | 5675             | 6140         | 160              | 160          | 6/6                         | 2700 <sup>*</sup>                                | 2900 <sup>*</sup> |
| TWO STAGE<br>FULL FREE             | 2F300     | 3000                | 2025              | 3700             | 4140         | 1370             | 930          | 6/12                        | 3000   | 3100              |
|                                    | 2F330     | 3300                | 2175              | 4000             | 4440         | 1520             | 1080         | 6/12                        | 3000   | 3100              |
|                                    | 2F350     | 3500                | 2310              | 4200             | 4640         | 1655             | 1215         | 6/12                        | 3000   | 3100              |
|                                    | 2F370     | 3700                | 2435              | 4400             | 4840         | 1780             | 1340         | 6/12                        | 3000   | 3100              |
|                                    | 2F400     | 4000                | 2625              | 4700             | 5140         | 1970             | 1530         | 6/6                         | 3000   | 3100              |
| THREE STAGE<br>FULL FREE           | 3F385     | 3850                | 2025              | 4515             | 4990         | 1405             | 930          | 6/6                         | 3000   | 3100              |
|                                    | 3F430     | 4300                | 2175              | 4965             | 5440         | 1555             | 1080         | 6/6                         | 3000   | 3100              |
|                                    | 3F475     | 4750                | 2310 <sup>®</sup> | 5415             | 5890         | 1690             | 1215         | 6/6                         | 2900   | 3100              |
|                                    | 3F515     | 5150                | 2435              | 5815             | 6290         | 1815             | 1340         | 6/6                         | 2850 <sup>†</sup>                                | 3050 <sup>†</sup> |
|                                    | 3F550     | 5500                | 2625              | 6165             | 6640         | 2005             | 1530         | 6/6                         | 2800 <sup>†</sup>                                | 3000 <sup>†</sup> |
|                                    | 3F600     | 6000                | 2875              | 6665             | 7140         | 2255             | 1780         | 6/6                         | 2700 <sup>†</sup>                                | 2900 <sup>†</sup> |
|                                    | 3F650     | 6500                | 3125              | 7165             | 7640         | 2505             | 2030         | 6/6                         | 2400 <sup>†</sup>                                | 2600 <sup>†</sup> |
|                                    | 3F700     | 7000                | 3375              | 7665             | 8140         | 2755             | 2280         | 6/6                         | 2100 <sup>†</sup>                                | 2300 <sup>†</sup> |
| THREE STAGE<br>FULL FREE WIDE VIEW | 3V385     | 3850                | 2025              | 4505             | 4990         | 1325             | 930          | 6/6                         | 3000   | 3100              |
|                                    | 3V430     | 4300                | 2175              | 4955             | 5440         | 1475             | 1080         | 6/6                         | 2950   | 3100              |
|                                    | 3V470     | 4700                | 2310              | 5355             | 5840         | 1605             | 1215         | 6/6                         | 2850   | 3050              |
|                                    | 3V505     | 5050                | 2435              | 5705             | 6190         | 1735             | 1340         | 6/6                         | 2750 <sup>†</sup>                                | 2950 <sup>†</sup> |
|                                    | 3V555     | 5550                | 2625              | 6205             | 6690         | 1925             | 1530         | 6/6                         | 2700 <sup>†</sup>                                | 2900 <sup>†</sup> |
|                                    | 3V600     | 6000                | 2875              | 6655             | 7140         | 2175             | 1780         | 6/6                         | 2650 <sup>†</sup>                                | 2850 <sup>†</sup> |
|                                    | 3V650     | 6500                | 3125              | 7155             | 7640         | 2425             | 2030         | 6/6                         | 2400 <sup>†</sup>                                | 2600 <sup>†</sup> |
|                                    | 3V700     | 7000                | 3375              | 7655             | 8140         | 2545             | 2280         | 6/6                         | 2100 <sup>†</sup>                                | 2300 <sup>†</sup> |

<sup>1</sup> 1 inch = 25.4 mm 1 kg = 0.4536 lb <sup>2</sup> Capacity with single pneumatic tyres unless indicated <sup>®</sup> special containers mast available: 2175 mm <sup>†</sup> Load capacity with double tyres. Truck width: 1720 mm <sup>\*</sup> Load capacity with single superelastic tyre



Especially developed to provide our customers with the most reliable and efficient technology in daily operation, TCM's counterbalanced trucks have been designed to meet the most challenging requirements even in the most demanding environments.



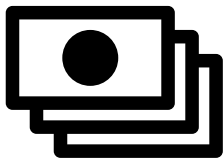
## RELIABLE

Proven technology paired with practical features: TCM stands for a unique mixture of customer-oriented solutions you can count on.



## DURABLE

Harsh conditions can be a challenge. For TCM trucks, it's their natural habitat. 24 hours a day, 7 days a week.



## ECONOMICAL

Balancing economy and environmentally friendly performance in TCM trucks has always been a top priority, facilitating a profitable and energy-efficient deployment of our high-end material handling solutions.

**TCM - A BRAND OF UNICARRIERS CORPORATION**  
**T-FD&FGE1.5-3.2.S.EN/TCM-2015-01**

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