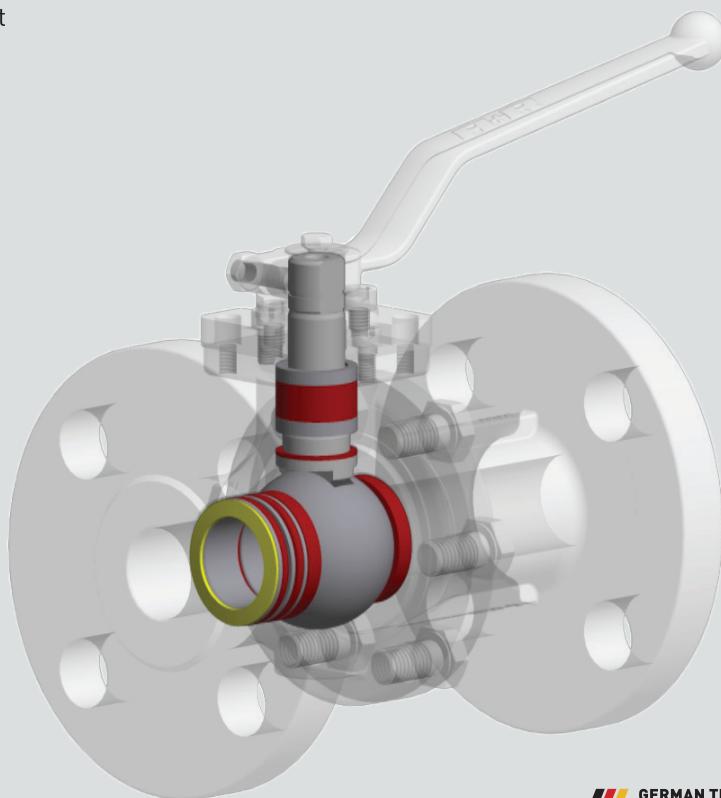


# Soft Seated

High Performance Ball Valves

## TYPE KHF 710

- 1/2"-12", ANSI Class 150-600
- Flange & face-to face-dimensions:  
ASME B 16.5, B 16.10
- Materials:  
CF8M  
WCB  
Special Materials (Duplex,  
Hastelloy C4...etc.) on request
- Temperature range:  
-58°F up to +392°F, up to 446°F on request



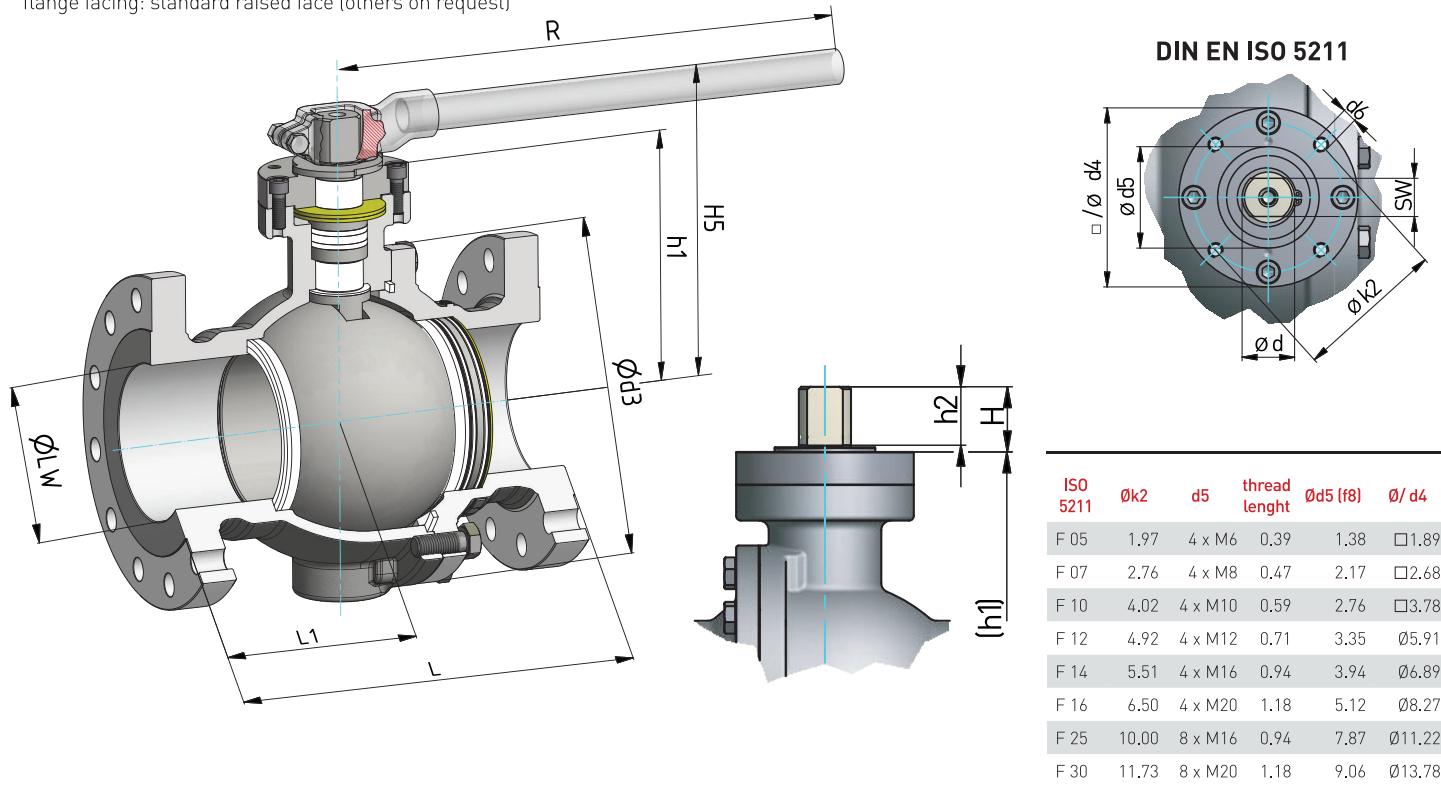
# TYPE KHF 710

soft seats

Dimensional Drawing

flange connection according to ASME B16.5

flange facing: standard raised face (others on request)



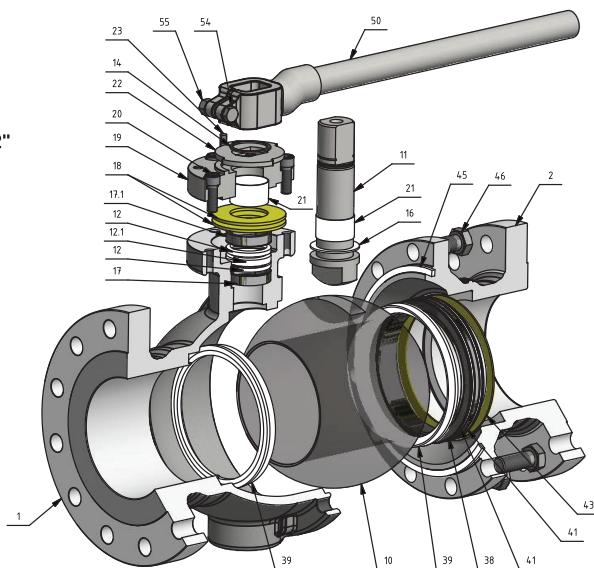
## MEASURING GUIDE TYPE KHF 710 soft seats

| NPS       | Lw    | L     |       | L1    |       | H     |       | h1   |      | h2    |       | Ød   |      | SW   |      | Ød3  |      | H5    |       | R     |       | Weight Lbs |       |        |        | ISO 5211 |     |     |     |
|-----------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|------|------|------|------|------|------|-------|-------|-------|-------|------------|-------|--------|--------|----------|-----|-----|-----|
| Class     | 150   | 300   | 150   | 300   | 600   | 150   | 300   | 600  | 150  | 300   | 600   | 150  | 300  | 600  | 150  | 300  | 600  | 150   | 300   | 600   | 150   | 300        | 600   | 150    | 300    | 600      | 150 | 300 | 600 |
| 1/2" in   | 0.63  | 4.25  | 5.50  | 6.50  | 1.85  | 1.85  | 2.28  | 0.67 | 0.67 | 2.48  | 2.48  | 0.39 | 0.39 | 0.63 | 0.63 | 0.49 | 0.49 | 3.54  | 3.54  | 3.58  | 5.24  | 6.30       | 6.6   | 8.1    | 9.2    | F05      | F05 | F05 |     |
| 3/4" in   | 0.75  | 4.62  | 6.00  | 7.50  | 1.89  | 1.89  | 2.28  | 0.67 | 0.67 | 2.48  | 2.48  | 0.39 | 0.39 | 0.63 | 0.63 | 0.49 | 0.49 | 3.54  | 3.54  | 3.58  | 5.24  | 6.30       | 7.2   | 10.3   | 100    | F05      | F05 | F05 |     |
| 1" in     | 0.98  | 5.00  | 6.50  | 8.50  | 1.89  | 2.48  | 3.07  | 0.67 | 0.67 | 2.48  | 2.48  | 0.39 | 0.39 | 0.63 | 0.63 | 0.49 | 0.49 | 3.54  | 3.54  | 4.13  | 5.24  | 6.30       | 8.1   | 11.6   | 15.6   | F05      | F05 | F05 |     |
| 1 1/2" in | 1.50  | 6.50  | 7.50  | 9.50  | 2.66  | 2.66  | 4.04  | 1.14 | 1.14 | 3.15  | 3.15  | 0.55 | 0.55 | 0.79 | 0.79 | 0.55 | 0.55 | 4.72  | 4.72  | 5.12  | 6.22  | 8.46       | 16.13 | 23.3   | 29.7   | F07      | F07 | F07 |     |
| 2" in     | 1.97  | 7.00  | 8.50  | 11.50 | 2.76  | 3.05  | 4.43  | 1.30 | 1.30 | 3.66  | 3.66  | 0.71 | 0.71 | 0.79 | 0.79 | 0.55 | 0.55 | 5.98  | 6.10  | 6.30  | 6.73  | 8.46       | 26.6  | 33.9   | 43.6   | F07      | F07 | F07 |     |
| 2 1/2" in | 2.52  | 7.50  | 9.50  | 13.00 | 3.15  | 3.15  | 4.04  | 1.38 | 1.38 | 4.53  | 4.53  | 0.71 | 0.71 | 0.79 | 0.79 | 0.55 | 0.55 | 7.48  | 7.48  | 7.48  | 7.68  | 8.46       | 42.9  | 50.7   | 65.4   | F10      | F10 | F10 |     |
| 3" in     | 3.00  | 8.00  | 11.12 | 14.00 | 3.25  | 4.04  | 5.61  | 1.46 | 1.46 | 4.90  | 4.90  | 0.79 | 0.79 | 0.98 | 0.98 | 0.76 | 0.76 | 7.95  | 7.95  | 8.46  | 8.31  | 11.81      | 54    | 71.4   | 91.9   | F10      | F10 | F10 |     |
| 4" in     | 3.94  | 9.00  | 12.00 | 17.00 | 3.72  | 4.63  | 6.40  | 1.46 | 1.46 | 5.55  | 5.55  | 0.79 | 0.79 | 0.98 | 0.98 | 0.76 | 0.76 | 9.25  | 9.37  | 9.96  | 8.98  | 11.81      | 79.5  | 107.3  | 166.4  | F10      | F10 | F10 |     |
| 6" in     | 5.91  | 15.50 | 15.88 | 22.00 | 6.89  | 7.68  | 8.27  | 2.17 | 2.17 | 9.55  | 9.55  | 1.63 | 1.63 | 1.73 | 1.73 | 1.26 | 1.26 | 12.60 | 12.60 | 14.37 | 11.85 | 31.50      | 209.8 | 250.8  | 401.2  | F12      | F12 | F12 |     |
| 8" in     | 7.87  | 18.00 | 19.75 | 26.00 | 8.27  | 9.25  | 10.43 | 2.17 | 2.17 | 11.02 | 11.02 | 1.63 | 1.63 | 1.73 | 1.73 | 1.26 | 1.26 | 15.63 | 15.94 | 18.31 | 13.31 | 31.50      | 351.6 | 426.1  | 768.3  | F12      | F12 | F16 |     |
| 10" in    | 9.84  | 21.00 | 22.38 | 31.00 | 9.65  | 10.83 | 12.20 | 2.36 | 3.19 | 12.99 | 13.27 | 2.01 | 2.91 | 1.89 | 2.76 | 1.42 | 1.97 | 19.17 | 19.88 | 21.26 | -     | -          | 563.2 | 726.6  | 1313.9 | F14      | F16 | F25 |     |
| 12" in    | 11.81 | 24.00 | 25.50 | 33.00 | 10.63 | 12.01 | 14.17 | 2.36 | 4.72 | 14.37 | 18.11 | 2.01 | 3.92 | 1.89 | 3.86 | 1.42 | 2.95 | 22.44 | 22.83 | 25.20 | -     | -          | 797.6 | 1007.2 | 2039.1 | F14      | F16 | F30 |     |

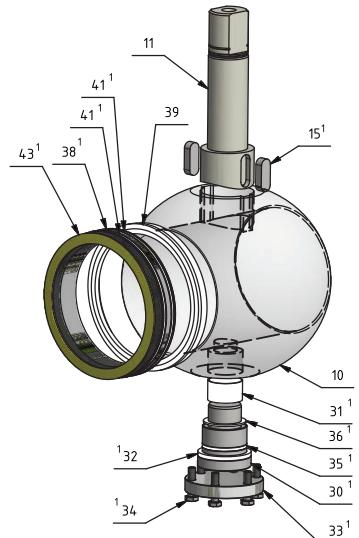
# TYPE KHF 710 soft seats

Exploded View I & II

**Fig. I:**  
Floating  
ball,  
live load  
NPS 1/2" - 12"



**Fig. II:**  
Trunnion  
mounted  
ball,  
live load  
NPS 3" - 12"



## BILL OF MATERIALS TYPE KHF 710 soft seats

| Positions Nr. / Item No. | Item                         | stainless steel version | carbon steel version |
|--------------------------|------------------------------|-------------------------|----------------------|
| 1                        | Body                         | CF8M                    | WCB                  |
| 2                        | Side cap                     | CF8M                    | WCB                  |
| 10                       | Ball <sup>2</sup>            | CF8M                    | CF8                  |
| 11                       | Stem                         | 316                     | 316                  |
| 12                       | Stem seal <sup>2</sup>       | PTFE                    | PTFE                 |
| 12.1                     | Stem seal <sup>2</sup>       | PTFE                    | PTFE                 |
| 14                       | Safety ring                  | 301                     | 301                  |
| 15                       | Key <sup>1</sup>             | 316Ti                   | 316Ti                |
| 16                       | Thrust ring <sup>2</sup>     | PTFE                    | PTFE                 |
| 17                       | Ring                         | 316L                    | 316L                 |
| 17.1                     | Ring                         | 316L                    | 316L                 |
| 18                       | Cup spring                   | 301                     | 301                  |
| 19                       | Cover                        | CF8M                    | CF8M                 |
| 20                       | Hex.-socket screw            | 304                     | 304                  |
| 21                       | Bearing band                 | PTFE                    | PTFE                 |
| 22                       | Stop disc                    | 304                     | 304                  |
| 23                       | Limit stop                   | 304                     | 304                  |
| 30                       | Trunnion <sup>1</sup>        | 316L                    | 316L                 |
| 31                       | Bearing band <sup>1</sup>    | PTFE                    | PTFE                 |
| 32                       | Trunnion seal <sup>1,2</sup> | PTFE                    | PTFE                 |
| 33                       | Cover <sup>1</sup>           | 316L                    | Carbon steel         |
| 34                       | Hex bolt <sup>1</sup>        | 316                     | 304                  |
| 35                       | O-Ring <sup>1,2</sup>        | FKM-FEP covered         | FKM-FEP covered      |
| 38                       | Seat carrier                 | 316L                    | 316L                 |
| 39                       | Ball seat <sup>2</sup>       | TFM1600                 | TFM1600              |
| 41                       | O-Ring <sup>2</sup>          | FKM-FEP covered         | FKM-FEP covered      |
| 43                       | Cup spring                   | Inconel                 | Inconel              |
| 45                       | Body gasket <sup>2</sup>     | PTFE                    | PTFE                 |
| 46                       | Hex bolt                     | 316                     | 304                  |
| 50                       | Handle                       | CF8                     | CF8                  |
| 54                       | Hex bolt                     | steel galvanized        | steel galvanized     |
| 55                       | Nut                          | steel galvanized        | steel galvanized     |

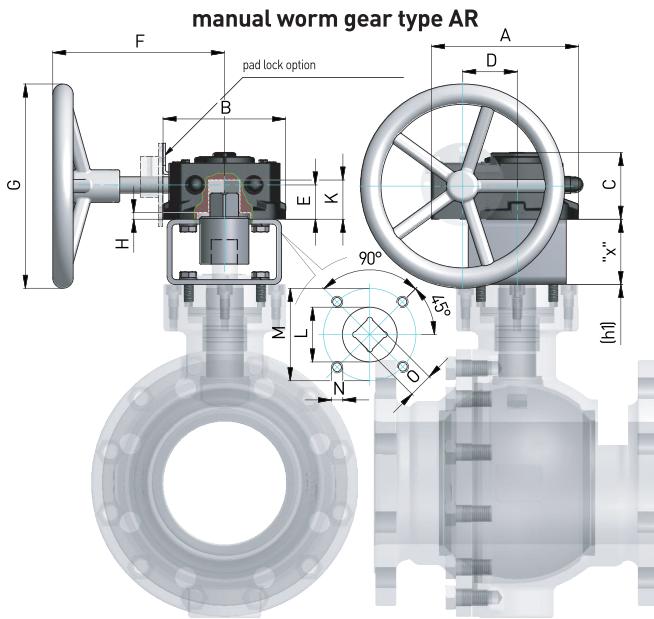
<sup>1</sup> Only for trunnion mounted design

<sup>2</sup> Recommended spare parts

# TYPE KHF 710

soft seats

Accessories



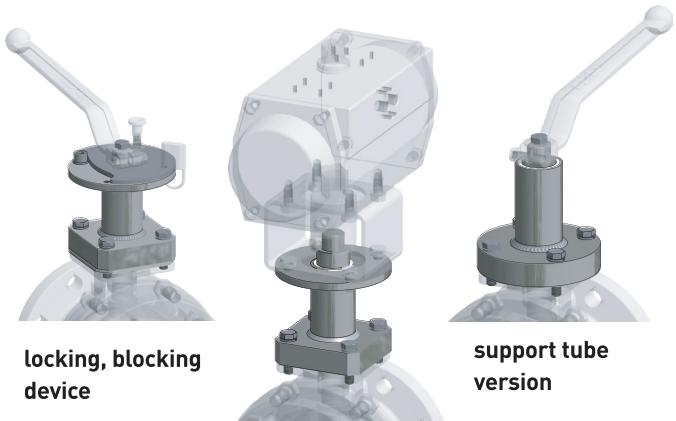
## MANUAL WORM GEAR

TYPE AR

| Type   | max.<br>Torque | A     | B     | C    | D    | E    | F     | G     | H    | K    | L    | M     | N   | O    | ISO<br>5211 |
|--------|----------------|-------|-------|------|------|------|-------|-------|------|------|------|-------|-----|------|-------------|
| AR 1   | 1,770 in-lb    | 4.45  | 3.31  | 2.52 | 1.71 | 1.12 | 6.04  | 6.30  | 0.18 | 1.18 | 1.38 | 2.76  | M8  | 0.67 | F07         |
| AR 2   | 7,080 in-lb    | 7.28  | 5.31  | 3.56 | 2.71 | 1.67 | 10.53 | 9.84  | 0.10 | 1.97 | 2.36 | 4.92  | M12 | 1.06 | F12         |
| AR 2,5 | 13,275 in-lb   | 8.11  | 6.14  | 3.82 | 3.31 | 1.77 | 12.91 | 19.69 | 0.08 | 2.36 | 3.35 | 5.51  | M16 | 1.42 | F14         |
| AR 3   | 17,700 in-lb   | 9.29  | 7.09  | 3.94 | 3.80 | 1.97 | 13.39 | 19.69 | 0.08 | 2.56 | 3.35 | 5.51  | M16 | 1.42 | F14         |
| AR 3,5 | 26,550 in-lb   | 10.98 | 9.84  | 4.63 | 4.63 | 1.91 | 14.96 | 23.62 | 0.08 | 2.95 | 4.53 | 6.50  | M20 | 1.81 | F16         |
| AR 4   | 35,400 in-lb   | 12.83 | 11.10 | 5.04 | 5.41 | 2.15 | 16.69 | 23.62 | 0.14 | 2.95 | 5.12 | 6.50  | M20 | 1.81 | F16         |
| AR 5   | 57,525 in-lb   | 13.39 | 11.10 | 5.04 | 5.41 | 2.15 | 17.95 | 23.62 | 0.14 | 2.95 | 5.12 | 10.00 | M16 | 2.17 | F25         |

## DIMENSION OF BRACKET "x"

STANDARD



| ball valve |          |      |      |      |      |      |
|------------|----------|------|------|------|------|------|
| gear box   | ISO 5211 | F 10 | F 12 | F 14 | F 16 | F 25 |
| AR 1       | F 07     | 3.15 | 3.15 | -    | -    | -    |
| AR 2       | F 12     | 3.15 | 3.15 | 3.15 | -    | -    |
| AR 2,5     | F 14     | -    | 3.15 | 3.15 | -    | -    |
| AR 3       | F 14     | -    | 3.15 | 3.15 | 3.94 | -    |
| AR 3,5     | F 14     | -    | 3.15 | 3.15 | 3.94 | 7.87 |
| AR 4       | F 16     | -    | 3.94 | 3.94 | 3.94 | 7.87 |
| AR 5       | F 25     | -    | -    | 7.87 | 7.87 | 7.87 |

## DESIGN FEATURES:

- PED 2014/68/EU, AD-2000
- ASME B16.34
- TA-Luft
- Fire-Safe
- Zero leakage/ Class VI FCI 70-2
- Live load state of the art sealing system
- Floating or trunnion mounted ball

**A+R Valve USA, LLC**

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