

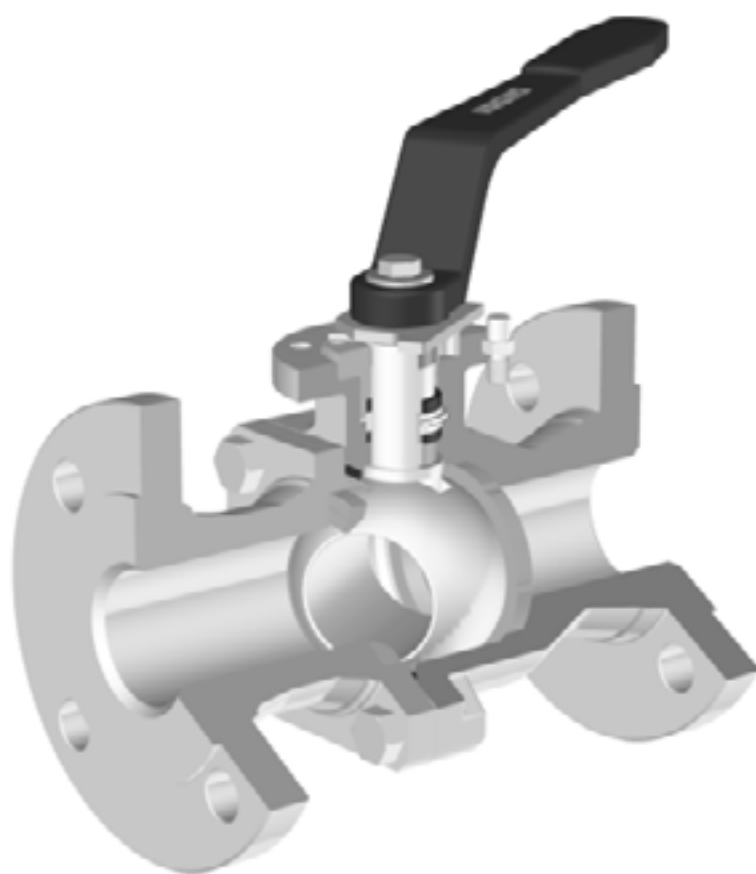


# TECHNICAL BULLETIN

***Argus***

FK 79

FCD ARENTB0002



## Ball valve FK 79 :

Designed to meet API-6D / ASME B16.34 / PED 97/23/EC requirements, the FK79 ball valve represents the highest standards in valve technology. Its superfine finished seat supported ball is just one of many innovative design features.

### Sizes:

ASME Pressure Classes:	DN ½" – DN 2"	Class 150 - 2500
	DN 3" – DN 4"	Class 150 - 300
DIN Pressure Classes:	DN 15 – DN 50	PN 16 – 250
	DN 80 – DN 100	PN 16 - 40

### Technical Design Features:

Design to API 6D /ASME B16.34 / PED 97/23/EC.

Materials: ASME Section II; Pressure / Temperature rating : ASME B16.34; Wall thickness : ASME B16.34; face to face dimensions : ASME B16.10, Flange connection ASME B16.5

DIN Design and materials according to PED 97/23/EC.

Split body, floating ball design, full bore, ends ASME B16.5 or EN or EN 1092-1.

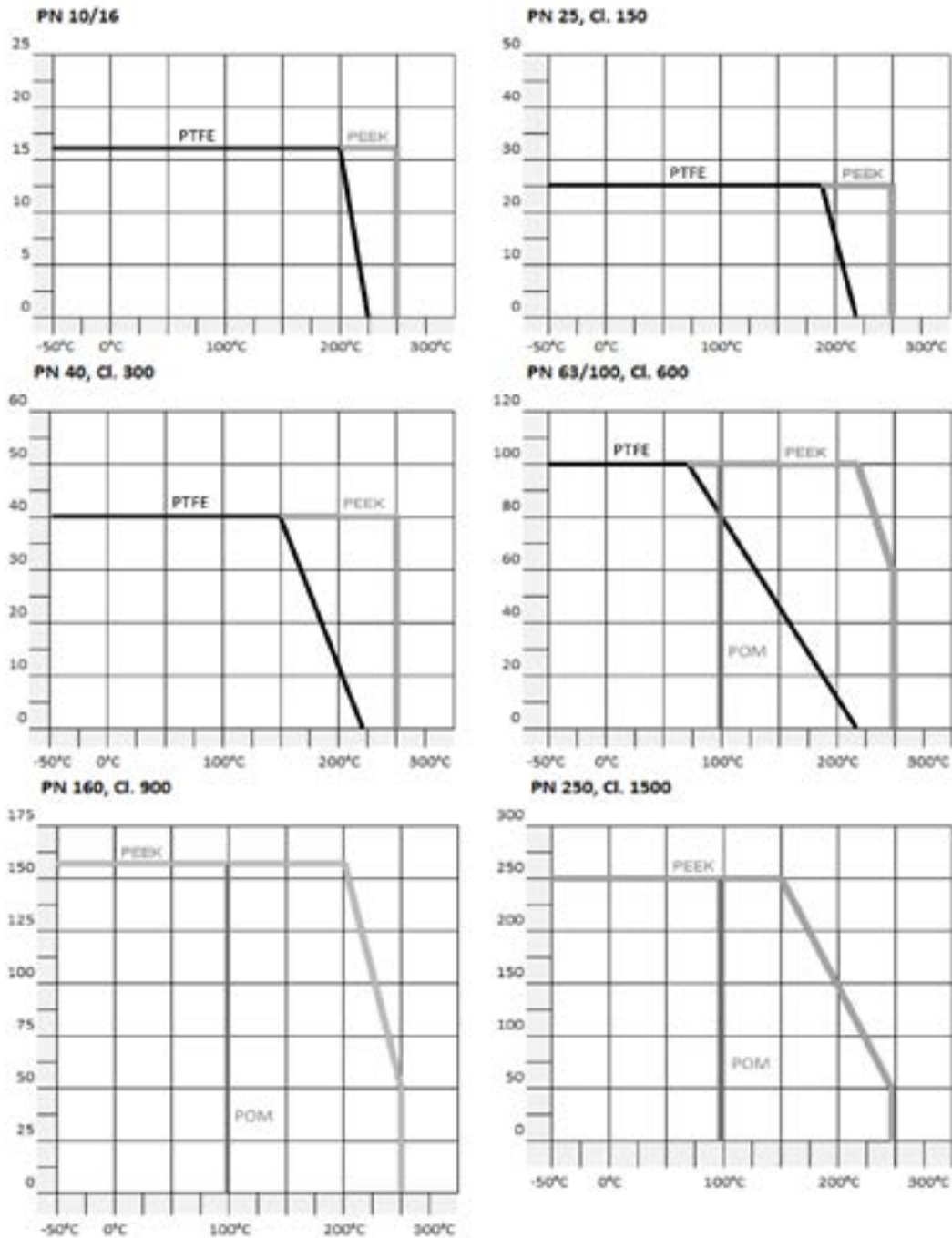
- Fire-safe according to BS 6755 Part 2, ISO 10497 or API 607 6th ed.
- Anti-blow out stem, long life double stem seal system and stem supported in bearings to ensure seals are free from operation loads
- Stem sealing system according to TA-Luft VDI 2440, EPA or EN ISO 15848-1:2006
- Face to face dimensions according to EN 558-1, EN 12980 or ASME B16.10
- Anti-static Design according to DIN EN ISO 17292, chapter 5.2.7
- Ball valve certification for "Exida" for Functional safety according to IEC 61598 SIL 3

## Materials:

Description	ED Material Code	Material DIN EN	Equivalent ASTM Material
<b>Body/flanges</b>	GP240GH+N	CS Casting DIN EN 1.0619	A216WCB
	G20Mn5	LCS Casting DIN EN 1.6220	A352LCB
	P355NL1+N	LCS TSTE 355N DIN EN 1.0566	A350LF2
	X6CrNiMoTi17-12-2	SS DIN EN 1.4571	A182 Gr. F 316
	GX5CrNiMo19-11-2	SS DIN EN 1.4408	A351 Gr.CF8M
<b>Ball</b>	X2CrNiMoN22-5-3	Duplex DIN EN 1.4462	A182 F51
	NiCu30FE	Monel	
	X2CrNiMoN22-5-3 CRABIDE	Duplex DIN EN 1.4462/1.4470 CRABIDE	A182 F51 CRABIDE
	X2CrNiMoN22-5-3 ARGULOY	Duplex DIN EN 1.4462/1.4470 ARGULOY	A182 F51 ARGULOY
	X6CrNiMoTi17-12-2 CRABIDE	SS DIN EN 1.4571 CRABIDE	A351 Gr.CF8M CRABIDE
	X6CrNiMoTi17-12-2 ARGULOY	SS DIN EN 1.4571 ARGULOY	A351 Gr.CF8M ARGULOY
<b>Stem</b>	X2CrNiMoN22-5-3	Duplex DIN EN 1.4462	A182 F51
	X5CrNiCuNB16-4	17-4 PH	17-4PH
	X2CrNiMMoNNb21653	Nitronic	Nitronic 50
<b>Stem seals</b>		PTFE; Graphite	
<b>Ball seats</b>		PTFE, POM, LYTON	
		PTFE/ss, POM/ss; LYTON; spring loaded seats, cavity relief	
	X2CrNiMoN22-5-3 CRABIDE	Duplex DIN EN 1.4462 CRABIDE	A182 F51 CRABIDE
	X2CrNiMoN22-5-3 ARGULOY	Duplex DIN EN 1.4462 ARGULOY	A182 F51 ARGULOY
<b>Body seals</b>		PTFE ; Graphite	
<b>Bolts</b>		A193 B7; A4-70	
<b>Nuts</b>		A194 Gr.4, A194 8M, A4-70	

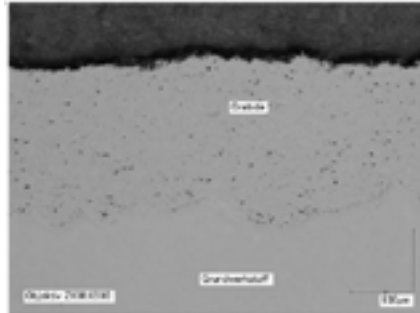
## Soft Seat Materials:

- PTFE:** Polytetrafluorethene; very high chemical resistance, minimized coefficient of friction
- POM:** Polyoxymethylene; high solidity, hardness and rigidity values by high abrasion resistance and low coefficient of friction
- LYTON (PEEK)** Polyetheretherketone; high chemical resistance, higher temperature rating; high solidity in combination with high abrasion resistance



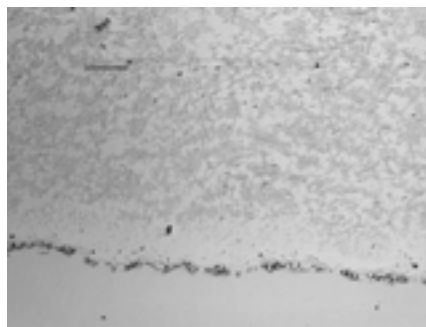
## Metal Coatings:

**CRABIDE:** CRABIDE is a hard metal alloy based on Chromium-carbide and Nickel/Chromium



Composition:	Cr <sub>2</sub> C <sub>3</sub> /Ni-Cr 75/25
Hardness:	900 – 1100 HV <sub>0.3</sub> (>67 HRC)
Temperature limit:	max. 970° (depending from base material and process conditions)
Thickness:	200 – 300 µm (usual)
Chemical properties:	Resistance versus media in the range of pH 5 and pH 12, as well under high temperature conditions
Mechanical properties:	High resistance especially against abrasion and adhesive wear and sliding abrasion.

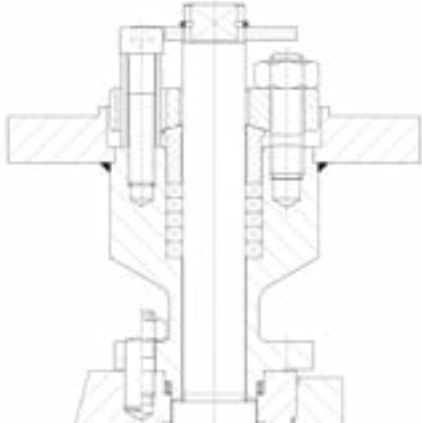
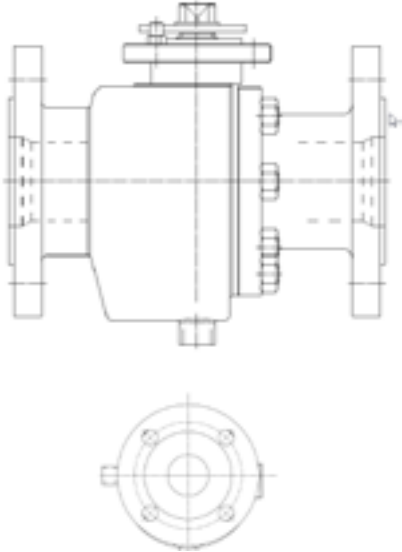
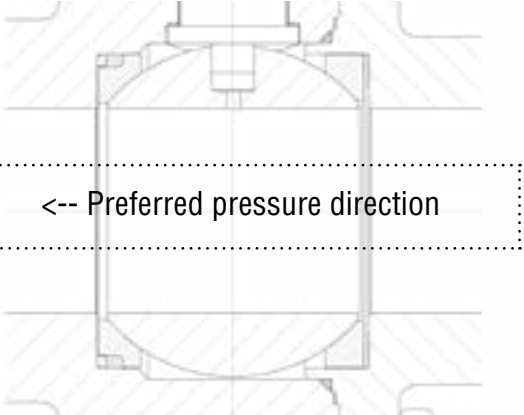
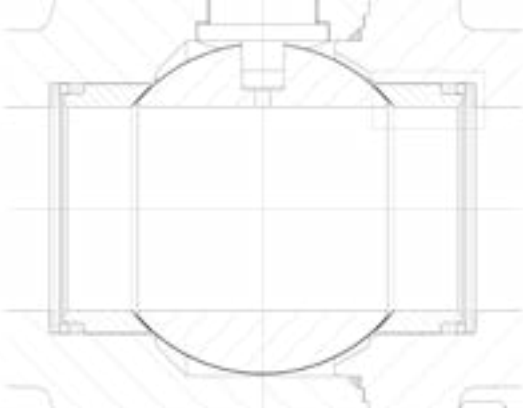
**ARGULOY:** ARGULOY is a Nickel based-based hard alloy. It is applied by flame-spraying and a special heat treatment after application ensures intimate bonding to the base material. The applied layers are homogenous, crack free, and resistant to corrosion and wear.



Composition:	Ni >70 %, Cr, B, Si
Hardness:	58 – 62 HRC
Temperature limit:	max. 750° (depending from base material and process conditions)
Thickness:	500 - 800 µm (usual)
Chemical properties:	High corrosion resistance against liquid and gaseous media; chemical base and halogen acids, as well as under high temperature conditions.
Mechanical properties:	High resistance especially against abrasion and adhesive wear and sliding abrasion. The diffusion zone between coating and base material after sintering is about 50µm. That's why the coating is preserved in case of wear.

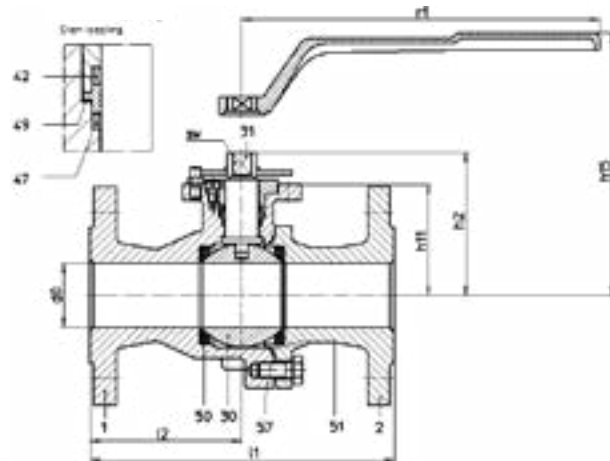
**Note:** Additional metal coating systems on request

Design options:

<p><b>High temperature stuffing box with DIN ISO Top plate</b> (Standard design to comply TA-Luft, EPA / ISO 15848)</p>	<p><b>Single side heating jacket valve type, pipe connections</b> (Defined standard; alternative connections or double seated design on request)</p>
	
<p><b>Metal sealing system Type “M”</b> Uni-directional sealing; single spring loaded seat (Defined standard for Cl. 150-300 / PN 16-40; for alternative pressure classes on request)</p>	<p><b>Metal sealing system Type “N”</b> Bi-directional sealing, double spring loaded seats (Defined standard for Cl.600 / PN 63-100; for alternative pressure classes on request)</p>
 <p data-bbox="224 1583 760 1675">← Preferred pressure direction</p>	

# Sectional drawing serial FK 79

(Standard design: soft seated, compact seats, TA-Luft stem sealing system)



## Dimensions:

A: FK 79 DIN PN 40

Investment casting

DN*	PN	I 1* EN 558-1 Gr. 27	I 2* EN 558-1 Gr. 27	I 1* EN 558-1 Gr. 28	I 2* EN 558-1 Gr. 28	h2*	h11*	h15*	r1*	d0*	SW*2- FL	Topwork DIN/ISO 5211
15	40	115	51,5	130	56	65,5	45	117	220	15	14	F05
20	40	120	54,5	150	70	66,5	46	118	220	20	14	F05
25	40	125	57	160	80	67,5	47	119	220	25	14	F05
32	40	130	58	180	90	79	58,5	131	220	30	14	F05
40	40	140	53	200	100	101	76,5	150	270	38	17	F07
50	40	150	58	230	115	108,5	84	157,5	270	48	17	F07
80	40	180	78	310	75	153	126	182	327,5	76	19	F10
100	40	190	94	350	94	169	142	198	327,5	100	19	F10
80	16	180	75	310	75	153	126	182	327,5	76	19	F10
100	16	190	91	350	91	169	142	198	327,5	100	19	F10

Note: \* in mm

B: FK 79 DIN PN 63/100

Forged Design

DN	PN	I 1* EN 558-1 Gr. 28	I 2*	h2*	h15*	r1*	d0*	SW 2-FL	Topwork DIN/ISO 5211
15	63/100	130	65	47,5	120	173	15		F05
20	63/100	150	75	54,5	126	173	20		F05
25	63/100	160	80	57	128,5	173	25		F05
40	63/100	200	100	82	152,5	220	38		F07
50	63/100	230	115	89,5	160	220	48		F07

Note: \* in mm

C: FK 79 ASME Class 150

Investment casting

Inch	Flange	l1*	l2*	h2*	h11*	h15*	r1*	d0	Topwork DIN/ISO 5211
½	RF	108	49	65	45	117	220	15	F05
¾	RF	117,5	54,5	66	46	118	220	20	F05
1	RF	127	57	67	47	119	220	25	F05
1 1/2	RF	165,1	75	101	76,5	150	270	38	F07
2	RF	177,8	85	108,5	84	157,5	270	48	F07

Note: \* in mm

D: FK 79 ASME Class 300

Investment casting

Inch	Flange	l1*	l2*	h2*	h11*	h15*	r1*	d0*	Topwork DIN/ISO 5211
½	RF	139,7	58	65	45	117	220	15	F05
¾	RF	152,4	66	66	46	118	220	20	F05
1	RF	165,1	75	67	47	119	220	25	F05
1 1/2	RF	190,5	85	101	76,5	150	270	38	F07
2	RF	215,9	105	108,5	84	157,5	270	48	F07

Note: \* in mm

E: FK 79 ASME Class 600

Forged design

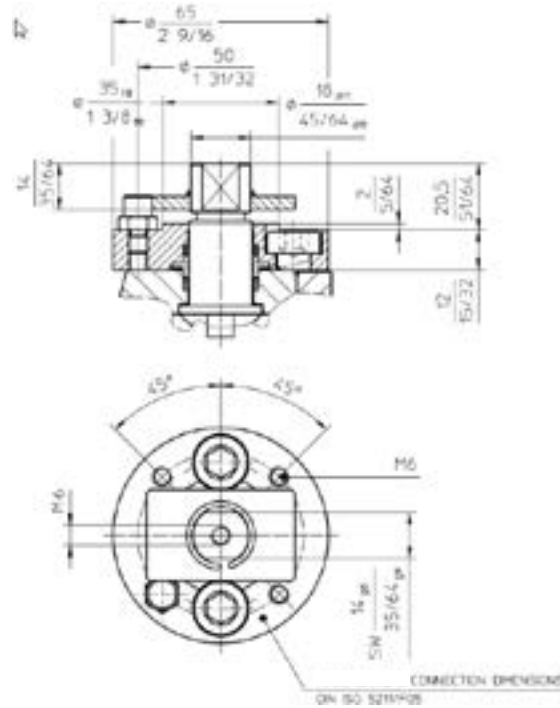
Inch	Flange	l1*	l2*	h2*	h15*	r1*	d0	Topwork DIN/ISO 5211
½	RF	165,1	74	47,5	120,5	155	15	F05
¾	RF	190,5	95,5	58,5	130	173	20	F05
1	RF	216,9	108	61	132,5	173	25	F05
1 1/2	RF	241,3	120,5	94	164,5	220	38	F07
2	RF	292,1	146	101,5	172	220	48	F07

Note: \* in mm

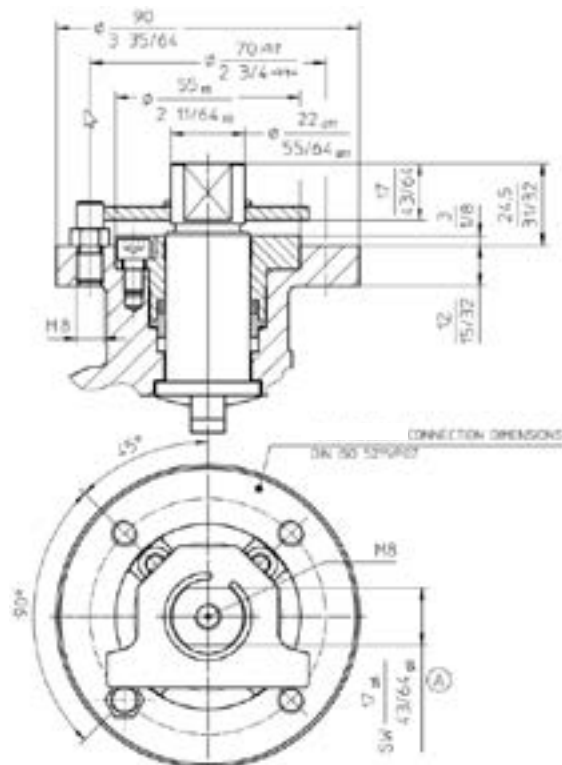


## Standard topwork drawings:

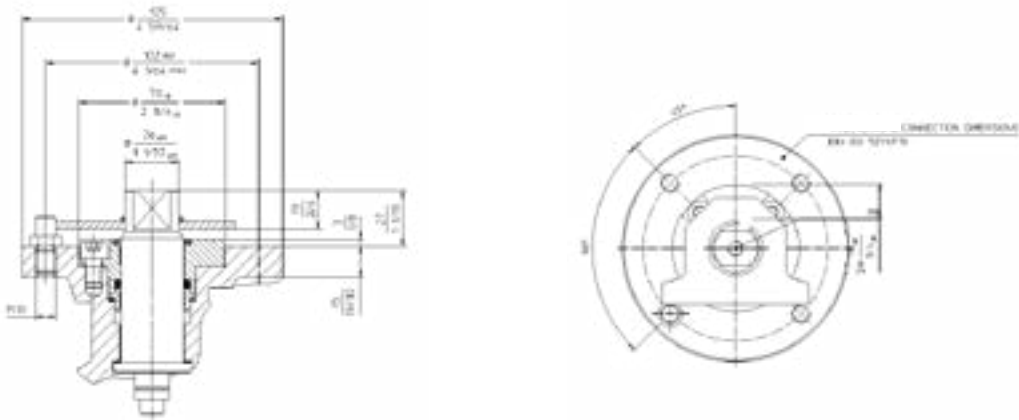
FK 79 Serial index AE DN 15 + 20; Serial index AB DN 25 + 32



FK 79 Serial index AB DN 40 + 50



FK 79 Serial index AB DN 80 + 100



**Accessories :**

<p><b>Locking device</b> (defined standard)</p>	<p><b>DIN ISO Stem extension</b> (defined standard: DN 15-50 L=100mm; DN 80-100 L=150mm)</p>	<p><b>Lever extension</b> (defined standard : L =100mm)</p>



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