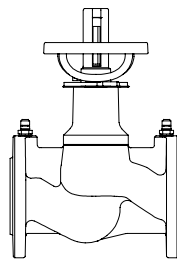


ARI-ASTRA® - Free of maintenance combinend flow regulating valve - soft sealed (to 120°C)

ARI-ASTRA®Plus - Free of maintenance combinend flow regulating valve (to 175°C resp. 350°C)

**ARI-ASTRA® -
 Straight through with flanges
 with EDD- Special stem seal**

- Maintenance-free
- Soft sealing
- EDD- Special stem seal
- Insulating cap with integrated dew point barrier
- Double sealing mechanism
- Digital display



Grey cast iron
Fig. 020
 (DN15-200)

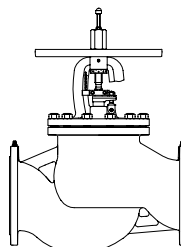
Page 2



Fig. 020 - ARI-ASTRA®

**ARI-ASTRA® -
 Straight through with flanges
 with gland packing**

- Maintenance-free
- Soft sealing
- Gland packing
- Insulating cap with integrated dew point barrier
- Double sealing mechanism
- Travel indicator (scale)



Grey cast iron
Fig. 042
 (DN250-500)

Page 3



Digital display

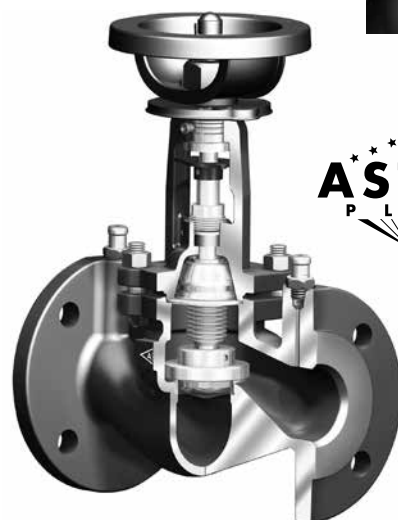
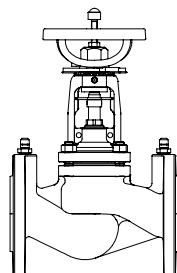


Fig. 042 - ARI-ASTRA®Plus

**ARI-ASTRA®Plus -
 Straight through with flanges
 with bellows seal**

- German TA - Luft TÜV-Test-No. 088-945053
- Maintenance-free
- Metal sealed
- Flat lubricating nipple
- Bellows seal
- Digital display

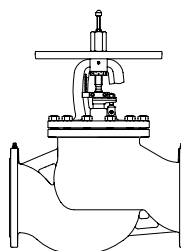


SG iron
Fig. 042
 (DN15-200)

Page 4

**ARI-ASTRA®Plus -
 Straight through with flanges
 with gland packing**

- Metal sealed
- Gland packing
- Travel indicator (scale)



SG iron
Fig. 042
 (DN250-400)

Page 5

Features:

- Position indicator as standard
- Travel limiter
- Non-rising handwheel
- Non-rotation lock for all nominal diameters
- External stem thread
- Free of FCKW and PCB
- Complete insulation possible according to the german „Energy saving order - EnEV“
- Integrated pressure gauge studs as standard

Combined flow regulating valve - straight through with flanges and special spindle seal (Grey cast iron)

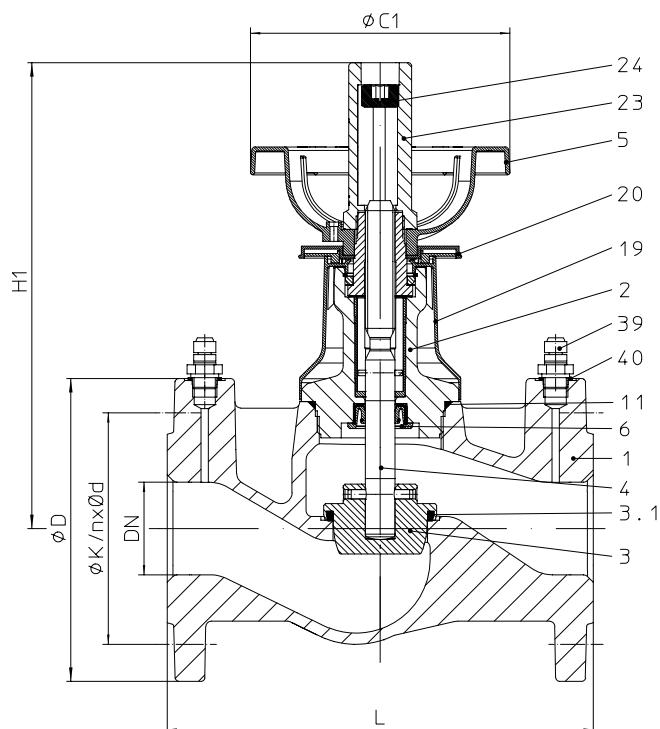


Figure	Nominal pressure	Material	Nominal diameter
12.020	PN 16	EN-JL1040	DN15-200

Construction:	Operating temperature -10°C to +120°C (for a short time up to +130°C)
	<ul style="list-style-type: none"> digital display made of plastic pressure gauge stud

Observe restrictions at high differential pressures! (see below)
 (for max. permissible ΔP in throttling function, refer to annex: Flow diagram)

Parts				Fig. 12.020 DN15-80	Fig. 12.020 DN100-200
Pos.	Sp.p.	Description			
1		Body	EN-JL1040, EN-GJL-250		
2		Bonnet	EN-JL1040, EN-GJL-250		
3	x	Plug	11SMnPb30+C (Zinc lamella coating)	≤ DN150: 11SMnPb30+C (Zinc lamella coating) DN200: C45E, 1.1191 (Zinc lamella coating)	
3.1		Soft seal	PTFE +25% C		
4		Stem	X20Cr13+QT, 1.4021+QT (burnished)		
5	x	Handwheel	≤ DN50: PA 6 > DN50: DC01, 1.0330 (coated)	DC01, 1.0330 (coated)	
6		Sealing ring	EPDM70 (EDD- Special stem seal)		
11	x	O-ring	EPDM	--	
11	x	Gasket	--	Pure graphite (CrNi laminated with graphite)	
19		Insulating cap	PA 6.6		
20	x	Indicator (digital)	ABS		
23	x	Cap	PA 6.6		
39		Pressure gauge stud (G1/4")	CW614N, 2.0401		
40		Gasket	Aramide fibre		
L Spare parts					

DN	15	20	25	32	40	50	65	80	100	125	150	200
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Face-to-face dimension FTF series 1 acc. to DIN EN 558													Standard-flange dimensions refer to page 7	
L	(mm)	130	150	160	180	200	230	290	310	350	400	480	600	

Dimensions													
H1	(mm)	215	215	215	215	255	255	315	335	370	400	450	540
ØA	(mm)	60	60	60	60	60	60	60	87	87	87	87	87
ØC1	(mm)	110	110	110	110	140	140	180	180	180	180	180	210
Travel	(mm)	20	20	20	20	30	30	40	48	48	54	70	90
Limitation ΔP	(bar)	16	16	16	16	16	16	16	16	16	16	16	14
Kvs-value	(m³/h)	4,5	6,6	9,8	15,1	24,9	48,5	74,4	111	165	242	372	704
Zeta-value	--	4	5,9	6,5	7,3	6,6	4,2	5,1	5,3	5,9	6,7	5,8	5,2
Z-Value acc. to VDMA 24423		0,44	0,63	0,54	0,52	0,47	0,36	0,30	0,37	0,27	0,23	0,23	0,23
Zeta-value ... range of tolerance for Kvs-values acc. to VDI/VDE 2173													
Handwheel-diameter ≥ DN100 at $\Delta p \geq 10$ bar, look at ARI-TL 0060000065													

Weights													
12.020	(kg)	3,5	4,1	4,8	6,6	9	11,5	18,5	24,5	40	49	91	170

Information / restriction of technical rules need to be observed!

ARI-Valves of EN-JL1040 are not allowed to be operated in systems acc. to TRD 110.

A production allowance acc. to TRB 801 No. 45 exists (acc. to TRB 801 No. 45 EN-JL1040 is not allowed.)

The engineer, designing a system or a plant, is responsible for the selection of the correct valve.

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

Combined flow regulating valve - straight through with flanges and gland seal (Grey cast iron)

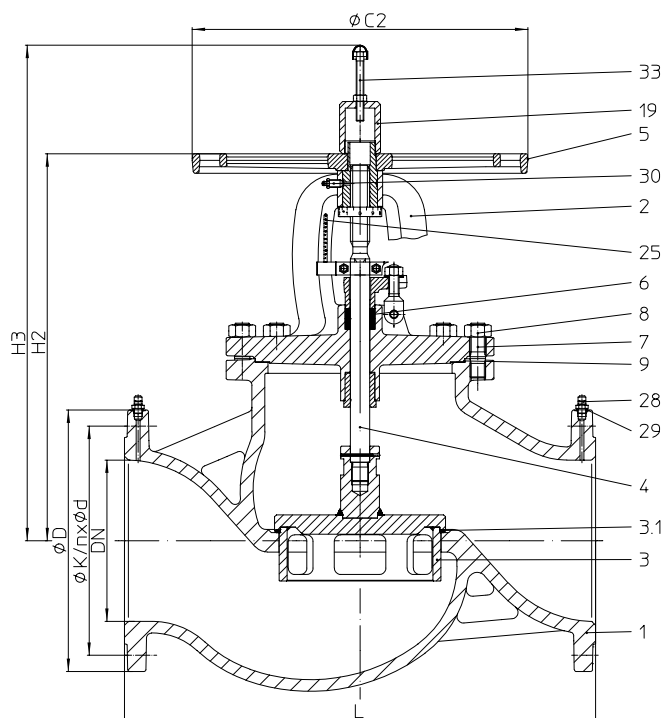


Figure	Nominal pressure	Material	Nominal diameter
12.042	PN 16	EN-JL1040	DN250-500

Construction:	Operating temperature -10°C to +200°C • travel indicator (scale) • pressure gauge stud
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Observe restrictions at high differential pressures! (see below)
 (for max. permissible ΔP in throttling function, refer to annex: Flow diagram)

Parts			
Pos.	Sp.p.	Description	Fig. 12.042 DN250-400
1		Body	EN-JL1040, EN-GJL-250
2		Bonnet	EN-JL1040, EN-GJL-250
3	x	Plug	P265 GH, 1.0425 / G19 9 Nb Si, 1.4551
3.1		Soft seal	PTFE +25% C
4	x	Stem	X20Cr13+QT, 1.4021+QT (burnished)
5		Handwheel	EN-JL1040, EN-GJL-250 (coated)
6	x	Packing ring	Pure graphite
7		Stud	25CrMo4, 1.7218
8		Hexagon nut	C35E, 1.1181
9	x	Gasket	Pure graphite (CrNi laminated with graphite)
19		Guard cap	11SMnPb30+C (coated)
25		Indicator (Travel indicator (scale))	Al
28		Pressure gauge stud (G1/4")	CW614N, 2.0401
29		Gasket	Aramide fibre
30		Locking device	St - A3G
33		Travel limiter	4.6 - A2T
L Spare parts			

DN	250	300	350	400	500
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Face-to-face dimension FTF series 1 acc. to DIN EN 558		Standard-flange dimensions refer to page 7				
L	(mm)	730	850	980	1100	1350

Dimensions						
H2	(mm)	600	685	775	790	901
H3	(mm)	785	890	1035	1050	1157
ØC2	(mm)	520	520	640	640	640
Travel	(mm)	66	84	84	91	119
Limitation ΔP	(bar)	9	6	4,5	3,5	1,5
Kvs-value	(m³/h)	812	1380	1651	2383	3185
Zeta-value	--	9,5	6,8	8,8	7,2	9,9
Zeta-value ... range of tolerance for Kvs-values acc. to VDI/VDE 2173						

Weights						
12.042	(kg)	265	360	535	765	1171

Information / restriction of technical rules need to be observed!

ARI-Valves of EN-JL1040 are not allowed to be operated in systems acc. to TRD 110.

A production allowance acc. to TRB 801 No. 45 exists (acc. to TRB 801 No. 45 EN-JL1040 is not allowed.)

The engineer, designing a system or a plant, is responsible for the selection of the correct valve.

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

Combined flow regulating valve - straight through with flanges and bellows seal (SG iron)

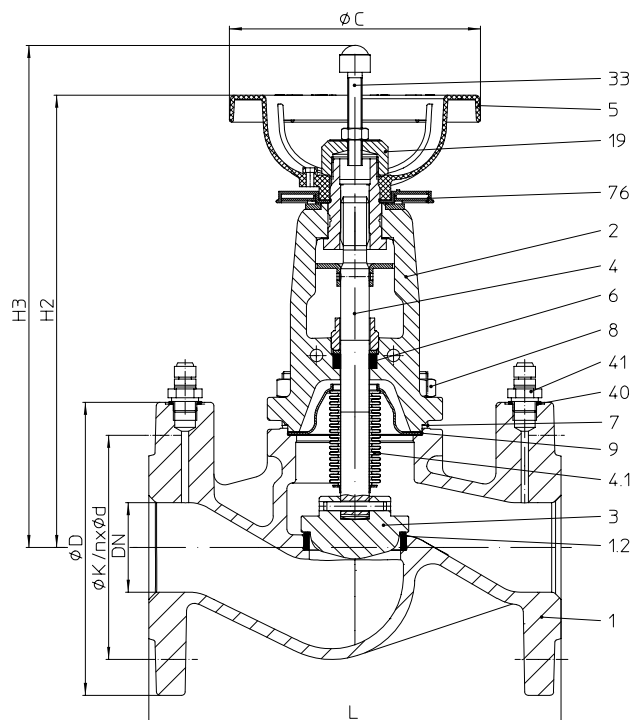
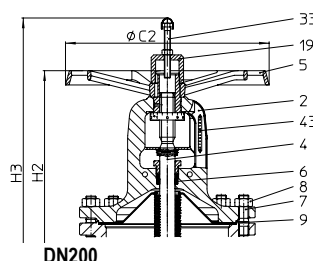


Figure	Nominal pressure	Material	Nominal diameter
22.042	PN 16	EN-JS1049	DN15-200

Construction:	DN15-150: Operating temperature -10°C to +175°C • digital display made of plastic • pressure gauge stud (travel indicator (scale) optional: -10°C to +350°C)
	DN200: Operating temperature -10°C to +350°C • travel indicator (scale) (pressure gauge stud optional: -10°C to +200°C)

Observe restrictions at high differential pressures! (see below)
 (for max. permissible ΔP in throttling function, refer to annex: Flow diagram)



Parts				Fig. 22.042 (DN15-150)	Fig. 22.042 (DN200)
Pos.	Sp.p.	Description			
1		Body	EN-JS1049, EN-GJS-400-18U-LT		
1.2		Seat ring	X20Cr13+QT, 1.4021+QT		
2		Bonnet	EN-JS1049, EN-GJS-400-18U-LT		
3	x	Plug	X20Cr13+QT, 1.4021+QT		
4	x	Stem	X20Cr13+QT, 1.4021+QT (burnished)		
4.1		Bellows seal	X6CrNiMoTi17-12-2, 1.4571		
5		Handwheel	≤ DN80: PA 6 > DN80: DC01, 1.0330 (coated)	EN-JL1040, EN-GJL-250 (coated)	
6	x	Packing ring	Pure graphite		
7		Stud	25CrMo4, 1.7218		
8		Hexagon nut	C35E, 1.1181		
9		Gasket	Pure graphite (CrNi laminated with graphite)		
19		Guard cap	11SMnPb30+C, 1.0718+C (coated)		
33		Travel limiter	4.6 - A2T / 8 - A2T		
40		Gasket	Aramide fibre		
41		Pressure gauge stud (G1/4")	CW614N, 2.0401		
43		Indicator (Travel indicator (scale))	-- (optional)		Al
76	x	Indicator (digital)	ABS		--
L Spare parts					

DN	15	20	25	32	40	50	65	80	100	125	150	200
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Face-to-face dimension FTF series 1 acc. to DIN EN 558													Standard-flange dimensions refer to page 7	
L	(mm)	130	150	160	180	200	230	290	310	350	400	480	600	

Dimensions													
H2	(mm)	225	225	235	235	255	255	270	290	380	405	435	520
H3	(mm)	240	240	245	245	275	275	295	315	425	465	495	625
ØC	(mm)	140	140	140	140	140	140	140	140	210	210	210	400
Travel	(mm)	6	6	8	8	13	13	16	20	25	32	40	50
Limitation ΔP	(bar)	16	16	16	16	16	16	16	16	16	16	16	14
Kvs-value	(m³/h)	5,04	6,06	8,72	14	27	33,2	55,4	89,5	125	224	330	570
Zeta-value	--	3,2	7	8,2	8,5	5,6	9,1	9,3	8,2	10,2	7,8	7,4	7,9

Zeta-value ... range of tolerance for Kvs-values acc. to VDI/VDE 2173

Weights													
22.042	(kg)	4	5	6,1	7,2	8,7	10,8	14,9	20,7	32,4	51,6	74	147

Information / restriction of technical rules need to be observed!

A production allowance acc. to TRB 801 No. 45 exists

The engineer, designing a system or a plant, is responsible for the selection of the correct valve.

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

Combined flow regulating valve - straight through with flanges and gland seal (SG iron)

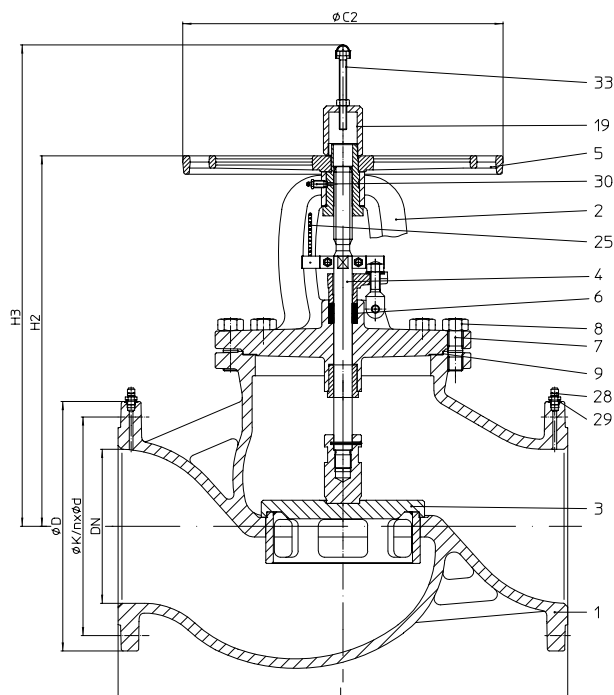


Figure	Nominal pressure	Material	Nominal diameter
22.042	PN 16	EN-JS1049	DN250-400

Construction:	Operating temperature: -10°C to +350°C • Travel indicator (scale) (pressure gauge stud optional: -10°C to +200°C)
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Observe restrictions at high differential pressures! (see below)
 (for max. permissible ΔP in throttling function, refer to annex: Flow diagram)

Parts			
Pos.	Sp.p.	Description	Fig. 22.042 (DN250-400)
1		Body	EN-JS1049 , EN-GJS-400-18U-LT
1.2		Seat ring	X20Cr13+QT, 1.4021+QT
2		Bonnet	EN-JS1049 , EN-GJS-400-18U-LT
3	x	Plug	P265 GH, 1.0425 / G19 9 Nb Si, 1.4551
4	x	Stem	X20Cr13+QT, 1.4021+QT (burnished)
5		Handwheel	EN-JL1040, EN-GJL-250 (coated)
6	x	Packing ring	Pure graphite
7		Stud	25CrMo4, 1.7218
8		Hexagon nut	C35E, 1.1181
9	x	Gasket	Pure graphite (CrNi laminated with graphite)
19		Guard cap	11SMnPb30+C, 1.0718+C (coated)
25		Indicator (Travel indicator (scale))	Al
28		Pressure gauge stud (G1/4") (optional)	CW614N, 2.0401
29		Gasket (optional)	Aramide fibre
30		Locking device	St - A3G
33		Travel limiter	4.6 - A2T / 5 - A2T
L Spare parts			

DN	250	300	350	400
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Face-to-face dimension FTF series 1 acc. to DIN EN 558		Standard-flange dimensions refer to page 7			
L	(mm)	730	850	980	1100

Dimensions					
H2	(mm)	600	685	775	790
H3	(mm)	785	890	1035	1050
ØC2	(mm)	520	520	640	640
Travel	(mm)	66	84	84	91
Limitation ΔP	(bar)	9	6	4,5	3,5
Kvs-value	(m³/h)	812	1380	1651	2383
Zeta-value	--	9,5	6,8	8,8	7,2

Zeta-value ... range of tolerance for Kvs-values acc. to VDI/VDE 2173

Weights					
22.042	(kg)	265	360	535	620

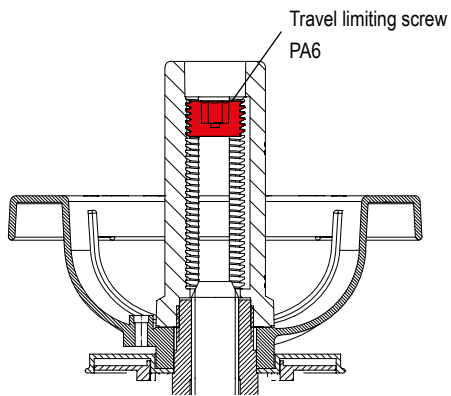
Information / restriction of technical rules need to be observed!

A production allowance acc. to TRB 801 No. 45 exists

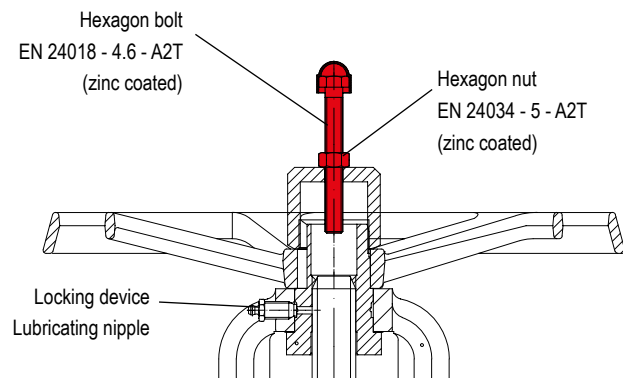
The engineer, designing a system or a plant, is responsible for the selection of the correct valve.

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

ASTRA®

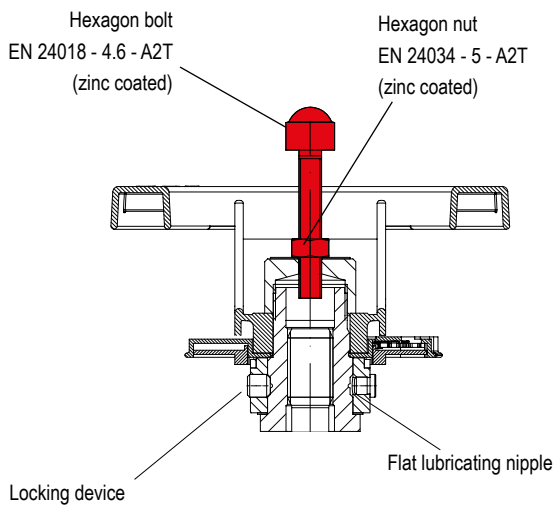


Travel limiter DN15-200

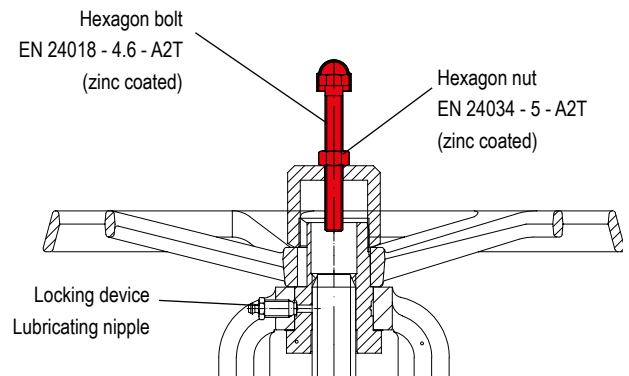


Travel limiter, Locking device DN250-500

ASTRA®Plus



Travel limiter, Locking device DN15-150



Travel limiter, Locking device DN200-400

DN	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400	500
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Standard-flange dimensions acc. to DIN EN 1092-2			Flange holes / -thickness tol. acc. To DIN 2533																
PN16	ØD	(mm)	95	105	115	140	150	165	185	200	220	250	285	340	405	460	520	580	715
	ØK	(mm)	65	75	85	100	110	125	145	160	180	210	240	295	355	410	470	525	650
	n x Ød	(mm)	4x14	4x14	4x14	4x18	4x18	4x18	4x18	8x18	8x18	8x18	8x22	12x22	12x26	12x26	16x26	16x30	20x33

Pressure-temperature-ratings Intermediate values for max. permissible operational pressures can be determined by linear interpolation of the given temperature / pressure chart.

acc. to DIN EN 1092-2			-10°C to 120°C	150°C	200°C	250°C	300°C	350°C
EN-JL1040	16	(bar)	16	14,4	12,8	11,2	9,6	--
EN-JS1049	16	(bar)	16	15,5	14,7	13,9	12,8	11,2

Attention: Observe operating temperature!			
12.020 DN15-200 (refer to page 2)	-10°C to +120°C (for a short time up to +130°C) <ul style="list-style-type: none"> • digital display made of plastic • pressure gauge stud 	22.042 DN15-150 (refer to page 4)	-10°C to +175°C <ul style="list-style-type: none"> • digital display made of plastic • pressure gauge stud (travel indicator (scale) optional: -10°C to +350°C without pressure gauge stud)
12.042 DN250-400 (refer to page 3)	-10°C to +200°C <ul style="list-style-type: none"> • travel indicator (scale) • pressure gauge stud 	22.042 DN200-400 (refer to page 4+5)	-10°C to +350°C <ul style="list-style-type: none"> • Travel indicator (scale) (pressure gauge stud optional: -10°C to +200°C)



myValve® - Valve Sizing-Program

Contents:

Module ARI-Combined flow regulation ASTRA/ASTRA-Plus-Calcuation

- Sizing of valve-size with given temperature, flow and operating pressure

Media:

Integrated media-data bank (more than 160 media) with conditions:

- Vapours / gases
- Steam (saturated and superheated)
- Liquids

Special features:

- Project administration of the calculation and product data incl. spare part drawings concerning to project and tag number
- Direct output or calculation and product data in PDF format
- Product data could be taken for a direct order
- SI- and ANSI-units with direct conversion to another data bank
- Settings with over pressure or absolute pressure
- All ARI valves are integrated in a data bank
- Direct access relating to the product on data sheets, operating instructions, pressure-temperature-diagram, controller characteristics, spare part drawings and CAD-symbols on the website.
- Operation in company networks possible (no complex installations on individually PC's necessary)
- Extensive catalogue extending over several product groups

System requirements:

Windows operating systems, Linux, etc.

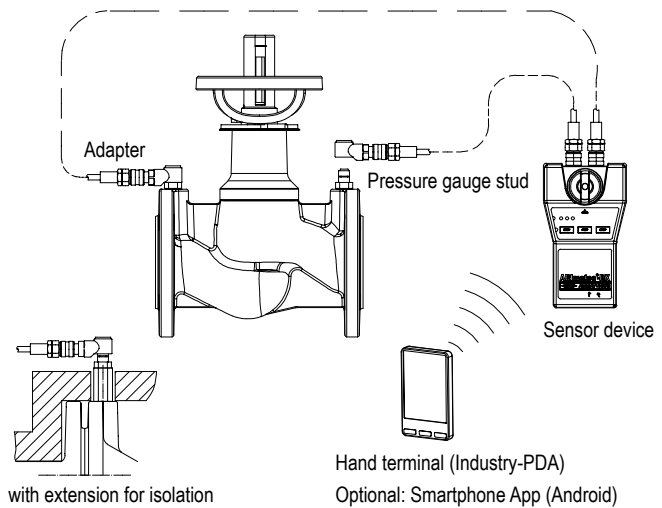
Balancing instrument ARImetec®-DX


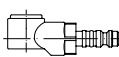



For flow and differential pressure measurement in hydraulic systems

- Sensor device and hand terminal (Industry PDA)

- Optional: Sensor device and **Smartphone App** (Android, incl. 2 licences)

(refer to separates Data sheet)



DN			15 - 25	32 - 40	50 - 80	100 - 400	500 ¹⁾
Design 1	Extension stud with sealing (standard)		•	•	•	•	•
	Adapter for pressure gauge stud		necessary only for measuring				
A	Extension 40 mm			•	•	•	•
B	Combinations for isolation acc. to the german „Energy saving order - EnEV“	 ²⁾ Extension A		•	•		
C		 ²⁾ 2 x Extension A				•	•
Attention: EPDM-sealing; no mineral oil based media allowed!							
¹⁾ only Fig.12.042							
²⁾ Threaded end for body connection							

Attention: Observe operating temperature!	
Accessories	-10°C to +90°C
Measuring	-10°C to +90°C

Please indicate when ordering

- Figure-No.
- Nominal pressure
- Nominal diameter
- Special design / accessories

Please indicate in your order, if the valves are to be installed in hazardous areas (ATEX).

Example:

Figure 12.020; Nominal pressure PN16; Nominal diameter DN 100.