

Bälz-electrodyn - control valves and control actuators

4. Short presentation of all available 3-way control valves from baelz 335 to baelz 354

4.1 Valve serie baelz 335

For HVAC 3-way valve, in bronze, externally threaded

Checklist:

ND: 1/2 - 1 1/2"
 NP: 16 / 25
 body: red bronze Rg5
 temperatures:
 min.: -10°C
 max.: +140°C
 externally threaded
 335's way B
 is not tight closing

ND	1/2	3/4	1	1 1/4	1 1/2	*3
Kvs	3,5	5	9	16	22	

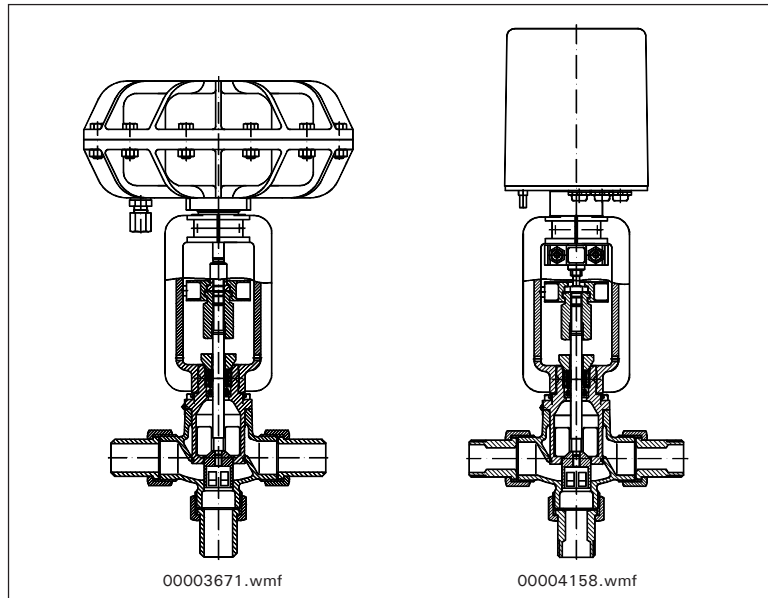


Fig. 55
 335-373-P21
 with weld-on socket

335-373-E07
 with threaded socket

Text for quotations + orders:

3-way control valve baelz 335 NP 16/25

without actuator*1*2

trough-way (A-AB) Kvso = 0.004%
 angle-way ((B-AB) Kvso = 2% , (3rd-way not tight closing)

body/seat : red bronze Rg5
 plug/spindle : stainless steel
 stuffing box : V-rings in PTFE
 temp./pressure : max. -10... +140°C/22 bar
 connection : with union nut in brass
 and weld-on socket or
 threaded socket

stroke : 12 mm

flow :

pressure drop

Δp_{100} : bar
 max. closing pressure for mixing valves*4
 (2 inlets / 1 outlet)

Δp_0 : bar
 max. closing pressure for diverting valves*4
 (1 inlet / 2 outlets)

Δp_0 : bar

*1
 electric actuator
 see 373-EXX page 81 - 90

*3
 available Kvs values
 see page 5

*2
 pneumatic actuator
 see 373-PXX page 104 - 110

*4
 pressure Δp_0
 see page 7 - 9



335-E02-DN1 1/4.JPG

Fig. 56 3-way valve for HVAC applications

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4.2 Valve serie baelz 342-B, 347-B, 347-BB

High volume selling universal 3-way valve baelz 342 in spheroidal GJS-400-18-LT (GGG 40.3)

Checklist:

ND: 15 - 300
 NP: 16 / 25 / 40
 standard body:
 NP 16 + 25:
 GJS-400-18-LT (GGG 40.3)
 NP 40:
 GP240GH (GS-C25)
 temperatures:
 min.: -10 °C
 max.: +240 °C or
 +350 °C type K
 342: 3rd-way B not tight closing
 347: 3rd-way B tight closing

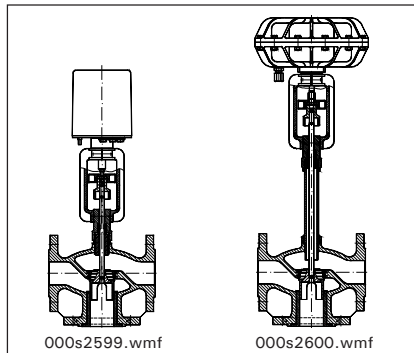


Fig. 57
 347-B-373-E07 347-BK-373-P21

Text for quotations + orders:

3-way control valve baelz 347-B NP 16
 without actuator*1*2
 trough-way (A-AB) $Kv_{so} = 0.004\%$
 angle-way (B-AB) $Kv_{so} = 0.004\%$
 body material : GJS-400-18-LT – JS 1025
 (GGG 40.3)
 internal parts : stainless steel
 stuffing box : V-rings in PTFE
 temp./pressure
 ND 15 - 250 : max. 240°C/11 bar -
 120°C/16 bar
 ND 300 : max. 240°C/11 bar -
 120°C/11 bar
 stroke ND 15 – 25 : 12 mm
 ND 32 – 125 : 22 mm
 ND 150 : 44 mm
 ND 200 – 300 : 66 mm
 flow :
 pressure drop Δp_{100} : bar
 max. closing pressure
 for mixing valve (2 inlets / 1 outlet)*4
 Δp_0 : bar
 max. closing pressure
 for diverting valve (1 inlet / 2 outlets)*4
 Δp_0 : bar

Text for quotations + orders:

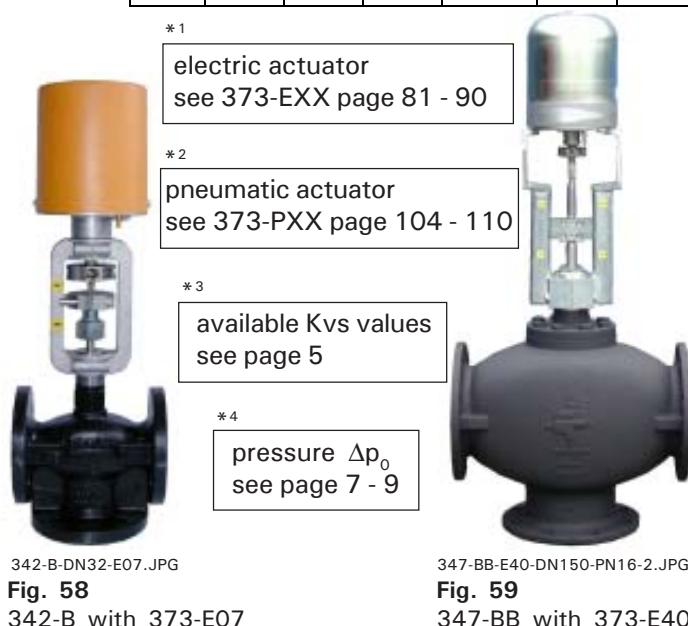
3-way control valve baelz 342-B NP 16
 without actuator*1*2
 trough-way (A-AB) $Kv_{so} = 0.004\%$
 angle-way (B-AB) $Kv_{so} = 2\%$
 body material : GJS-400-18-LT – JS 1025
 (GGG 40.3)
 internal parts : stainless steel
 stuffing box : V-rings in PTFE
 temp./pressure
 ND 15 - 125 : max. 240°C/11 bar – 120°C/16 bar
 stroke ND 15 – 25 : 12 mm
 ND 32 – 125 : 22 mm
 flow :
 pressure drop Δp_{100} : bar
 max. closing pressure for mixing valve*4
 (2 inlets / 1 outlet) Δp_0 : bar
 max. closing pressure for diverting valve*4
 (1 inlet / 2 outlets) Δp_0 : bar

*3

ND	15		20	25	32	
Kvs	2,0	3,0	5,6	6,3	9	16
ND	40	50	65	80	100	125
Kvs	25	36	63	105	130	200
ND	150	200	250	300		
Kvs	360	580	960	1340		

Text for quotations + orders:

3-way control valve baelz 342-BK NP 25
 without actuator*1*2
 trough-way (A-AB) $Kv_{so} = 0.004\%$
 angle-way (B-AB) $Kv_{so} = 2\%$
 body material : GJS-400-18-LT – JS 1025
 (GGG 40.3)
 internal parts : stainless steel
 stuffing box : V-rings in PTFE
 temp./pressure : max. 350°C/13 bar - 120°C/25 bar
 stroke ND 15 – 25 : 12 mm
 ND 32 – 125 : 22 mm
 flow :
 pressure drop Δp_{100} : bar
 max. closing pressure for mixing valve*4
 (2 inlets / 1 outlet) Δp_0 : bar
 max. closing pressure for diverting valve*4
 (1 inlet / 2 outlets) Δp_0 : bar



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4.3 Hot oil bellows valve series baelz 342-BK-SS, 347-BK-SS, 347-BBK-SS

Assuredly the best valve serie for hot oil systems

Checklist:

ND: 15 - 300
 NP: 16 / 25 / 40
 standard body:
 342 / 347:
 NP 16 + NP 25:
 GJS-400-18-LT (GGG 40.3)
 NP 40:
 GP240GH (GS-C25)
 temperatures:
 min.: -10°C
 max.: +350°C
 342: 3-way valve,
 3rd-way B not tight
 347: 3-way, 3rd-way B tight

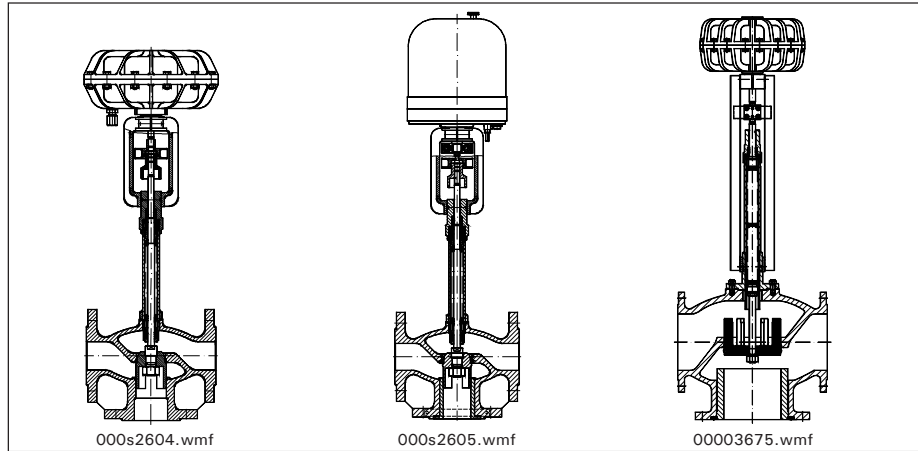


Fig. 60

342-BK-SS-373-P21

347-BK-SS-373-E40

347-BBK-SS-373-P31

ND	15	20	25	32	40	50	65	80	100	125	150	200	250	300	^{*3}	
Kvs	2,0	3,0	5,6	6,3	9	16	25	36	63	105	130	200	360	580	960	1340

*3

available Kvs values
 see page 5



342-BK-SS-DN32-P21-IP86.JPG

Fig. 61
 342-BK-SS with 373-P21
 and IP86



342-BK-SS-DN32-E07.JPG

Fig. 62
 342-BK-SS with 373-E07



347-BBK-SS-5441311.JPG

Fig. 63
 347-BBK-SS with 373-P41-V

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Text for quotations + orders:

We recommend to install ahead of each control valve a strainer baelz 70200.

Hot oil 3-way valve with bellows and with electric*1 or with pneumatic actuator*2 and i/p positioner as mixing valve (2 inlets A + B, 1 outlet AB) baelz 342-BK-SS-373-XX

with equal percentage V-port plug
trough-way (A-AB) $K_{vso} = 0.004\%$
angle-way (B-AB) $K_{vso} = 2\%$

body material: GJS-400-18-LT – JS 1025 (GGG 40.3)
trim in stainless steel; spindle seal with bellows and safety gland
max. 350°C/8 bar or max. 120°C/16 bar
stroke ND 15 – 25: 12 mm
ND 32 – 125: 22 mm
flow : hot oil: m³/h
pressure drop $\Delta p_{100} = \dots\dots\dots$ bar
max. closing pressure $\Delta p_0 = \dots\dots\dots$ bar*4
as mixing valve

*1
electric actuator
see 373-EXX page 81 - 90

*2
pneumatic actuator
see 373-PXX page 104 - 110

*4
pressure Δp_0
see page 7 - 9

Control valve type 342-BK-SS-373-XX			NP 16						
			with motorized actuator XX = 373-E07-20-18-S21-230			with pneumatic actuator and i/p positioner XX = 373-P21-YY-Fu-S21-86/IP8000-M			
ND	stroke [mm]	Kvs [m ³ /h]	Δp_0 max. [bar]	Order No.		YY	Δp_0 max. [bar]	Order No.	
15	12	5.6	16	342-2115		06	16	342-2615	
20	12	6.3	16	342-2116		06	16	342-2616	
25	12	9	16	342-2117		06	16	342-2617	
32	22	16	16	342-2118		06	16	342-2618	
40	22	25	12	342-2119		06	13.5	342-2619	
50	22	36	8	342-2120		06	8.9	342-2620	
65	22	63	4.6	342-2121		12	8	342-2621	
80	22	105	2.9	342-2122		18	7	342-2622	
100	22	130	1.7	342-2123		V6	8	342-2623	
125	22	200	1	342-2124		V6	5	342-2624	

- Supplement for potentiometer 5 kΩ and sequence amplifier baelz 1020-230-M for baelz 373-E07 to receive a positioning signal 0-10 V or 4-20 mA
- Supplement for potentiometer 5 kΩ and sequence amplifier baelz 1020-230-M for baelz 373-E40 to receive a positioning signal 0-10 V or 4-20 mA
- Supplement for potentiometer 5 kΩ and sequence amplifier baelz 1020-230-M for baelz 373-E11 to receive a positioning signal 0-10 V or 4-20 mA
- Supplement for 3-way solenoid valve baelz 268/2-230-M for baelz 373-P21
- Supplement for air pressure reduction set baelz 54298-¼"-M:
- Supplement for feedback potentiometer 0-5 kΩ: baelz 373-E07-Fg-5kΩ
baelz 373-E40-Fg-5kΩ
baelz 373-E11-Fg-5kΩ
- Supplement for spring return actuator baelz 373-E11-20-17 with 2000 N instead of baelz 373-E07

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4.4 Balanced 3-way valve for liquids baelz 347-B-EM

Checklist:
 ND: 50 - 300
 NP: 16 / 25
 standard body:
 GJS-400-18-LT (GGG 40.3)
 temperatures:
 min.: -10°C
 max.: +225°C
 spindle Ø: 10 mm
 S 21: ND 50 - 125
 spindle Ø: 22 mm
 S 31 / 41: ND 150 - 300

*1
 electric actuator
 see 373-EXX page 81 - 90

*2
 pneumatic actuator
 see 373-PXX page 104 - 110

*3
 available Kvs values
 see page 5

*4
 pressure Δp_0
 see page 7 - 9

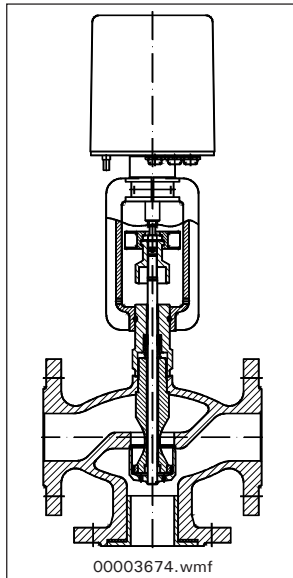


Fig. 64
 347-B-EM-373-E07

Text for quotations + orders:

**balanced 3-way control valve baelz 347-B-EM
 NP 16**

without actuator*1*2

$Kv_{so} = 0.05\%$

body material : GJS-400-18-LT – JS 1025
 (GGG 40.3)

internal parts : stainless steel

stuffing box : V-rings in PTFE

water : max. 225°C/13 bar - 120°C/16 bar

stroke ND 50 : 12 mm

ND 65 - 125 : 22 mm

ND 150 : 44 mm

ND 200 - 300 : 66 mm

flow :

pressure drop Δp_{100} : bar

max. closing pressure for mixing valve*4

(2 inlets / 1 outlet) Δp_0 : bar

max. closing pressure for diverting valve*4

(1 inlet / 2 outlets) Δp_0 : bar

*3

ND	50	65	80	100	125	150	200	250	300
Kvs	36	63	105	130	200	360	580	960	1340



347-BB-EM-E60-DN200-1.JPG

Fig. 65
 347-BB-EM-373-E60

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4.5 Valve serie baelz 342-ES-AS, 342-ES-MS, 347-ES-AS, 347-ES-MS in stainless steel

Checklist:
 ND: 25 + 50
 NP: 16 / 25 / 40
 body:
 GX3CrNiMo13-4 (1.4313)
 temperatures:
 min.: -10°C
 max.: +240°C or
 +350°C type K
 for hot oil / bellows type:
 type K-SS: 350°C
 spindle Ø: 10 mm
 342: 3-way valve,
 3rd-way B not tight
 347: 3-way, 3rd-way B tight

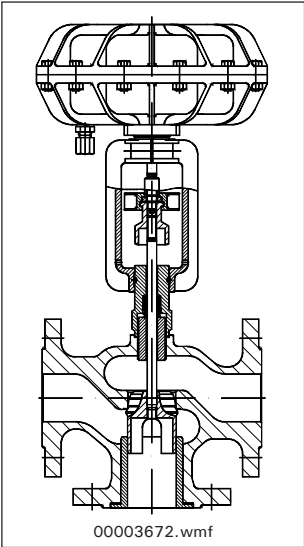


Fig. 66
 347-ES-373-P21

Text for quotations + orders:

3-way control valve in stainless steel
baelz 342-ES-AS NP 16/25/40
 without actuator*1*2
 trough-way (A-AB): Kvso = 0.004%
 angle-way (B-AB): Kvso = 2%
 body material : GX3CrNiMo13-4 - 1.4313
 internal parts in contact with the medium
 : X6CrNiMoTi17-12-2 - 1.4571
 stuffing box : V-rings in PTFE
 NP 16 max. : 240°C/14 bar - 120°C/16 bar
 NP 40 max. : 240°C/35 bar - 120°C/40 bar
 stroke ND 15 – 25 : 12 mm
 ND 32 – 125 : 22 mm
 flow :
 pressure drop Δp_{100} : bar
 max. closing pressure for mixing valve*4
 (2 inlets / 1 outlet) Δp_o : bar
 max. closing pressure for diverting valve*4
 (1 inlet / 2 outlets) Δp_o : bar



347-B-ES-DN50-P21.JPG

Fig. 67
 347-ES with 373-P21

ND	25	50	*3
Kvs	9	36	

*1
 electric actuator
 see 373-EXX page 81 - 90

*2
 pneumatic actuator
 see 373-PXX page 104 - 110

*3
 available Kvs values
 see page 5

*4
 pressure Δp_o
 see page 7 - 9

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4.6 Valve serie baelz 353 and 354

Stainless steel 3-way valve baelz 353 and 354

Checklist: 353
 ND: 15 - 25
 NP: 16 / 25 / 40
 standard body:
 X6CrNiMoTi17-12-2 (1.4571)
 temperatures:
 min.: -10°C
 max.: +240°C
 spindle Ø: 10 mm

Checklist: 354-VA
 ND: 32 - 125
 NP: 16 - 40
 standard body:
 GX5CrNiMo19-11 (1.4408)
 temperatures:
 min.: -10°C
 max.: +240°C
 spindle Ø: 10 mm

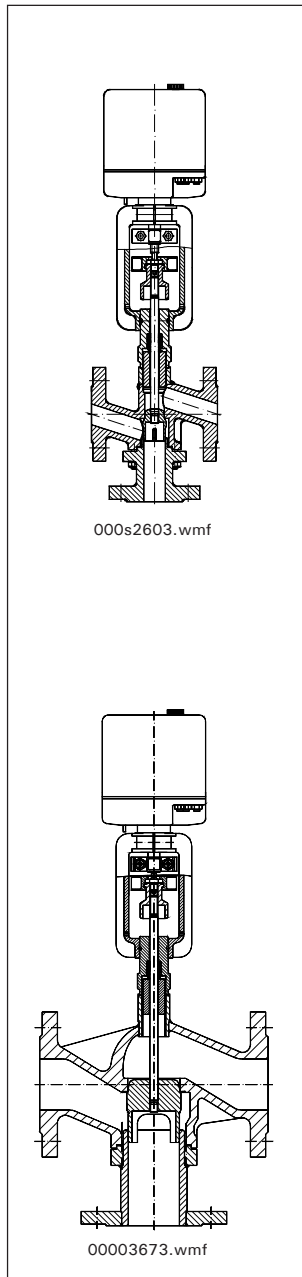


Fig. 69
 353-373-E02
 354-373-E02

Text for quotations + orders:

3-way control valve in stainless steel
baelz 353 NP 16/25/40
 without actuator*1*2
 trough-way (A-AB) Kvso = 0.004%
 angle-way (B-AB) Kvso = 0.004%
 body material : X6CrNiMoTi17-12-2 - 1.4571
 internal parts : stainless steel
 stuffing box : V-rings in PTFE
 temp./pressure : max. 240°C/30 bar - 120°C/40 bar
 stroke : 12 mm
 flow :
 pressure drop Δp_{100} : bar
 max. closing pressure for mixing valve*4
 (2 inlets / 1 outlet) Δp_0 : bar
 max. closing pressure for diverting valve*4
 (1 inlet / 2 outlets) Δp_0 : bar

Text for quotations + orders:

3-way control valve in stainless steel
baelz 354-VA NP 10 - 40
 without actuator*1*2
 trough-way (A-AB) Kvso = 0.004%
 angle-way (B-AB) Kvso = 0.004%
 body material : GX5CrNiMo19-11 - 1.4408
 internal parts : stainless steel
 stuffing box : V-rings in PTFE
 NP 16 max. : 240°C/10 bar - 100°C/13,5 bar
 20°C/16 bar
 NP 25 max. : 240°C/15,5 bar - 100°C/21,5 bar
 20°C/25 bar
 NP 40 max. : 240°C/25 bar - 100°C/34 bar
 20°C/40 bar
 stroke ND 32-125 : 22 mm
 flow :
 pressure drop Δp_{100} : bar
 max. closing pressure for mixing valve*4
 (2 inlets / 1 outlet) Δp_0 : bar
 max. closing pressure for diverting valve*4
 (1 inlet / 2 outlets) Δp_0 : bar



354-E40-DN125.JPG

Fig. 68
 354-373-E40

*1
 electric actuator
 see 373-EXX page 81 - 90

*3

ND	15	20	25	32	40	50	65	80	100	125
Kvs	5,6	6,3	9	16	25	34	54	72	97	122

*2
 pneumatic actuator
 see 373-PXX page 104 - 110

*3
 available Kvs values
 see page 5

*4
 pressure Δp_0
 see page 7 - 9