MAKING MODERN LIVING POSSIBLE

Collection of Instructions

Instructions for Danfoss
Refrigeration & Air conditioning Controls

REFRIGERATION &
AIR CONDITIONING DIVISION

Catalogue

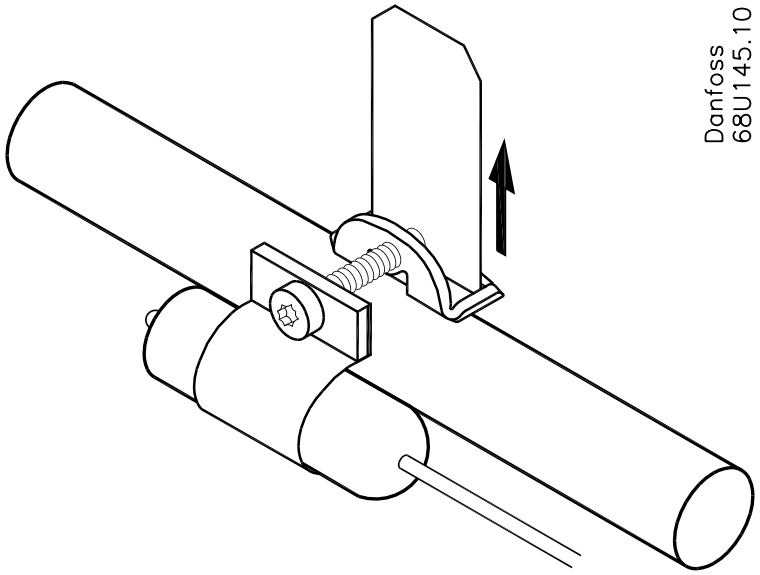
Contents

Instructions

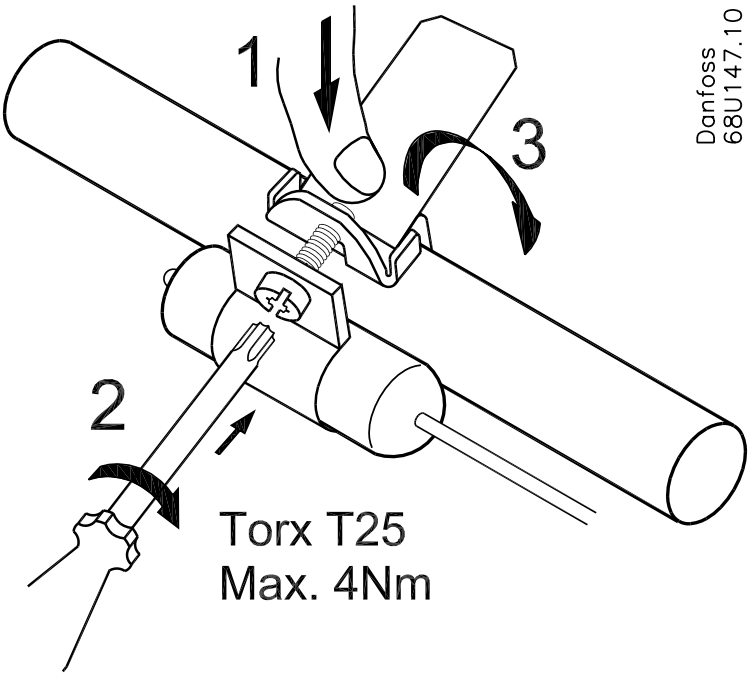
Bulb straps for thermostatic expansion valves

060R9817

060R9817



Danfoss
68U145.10



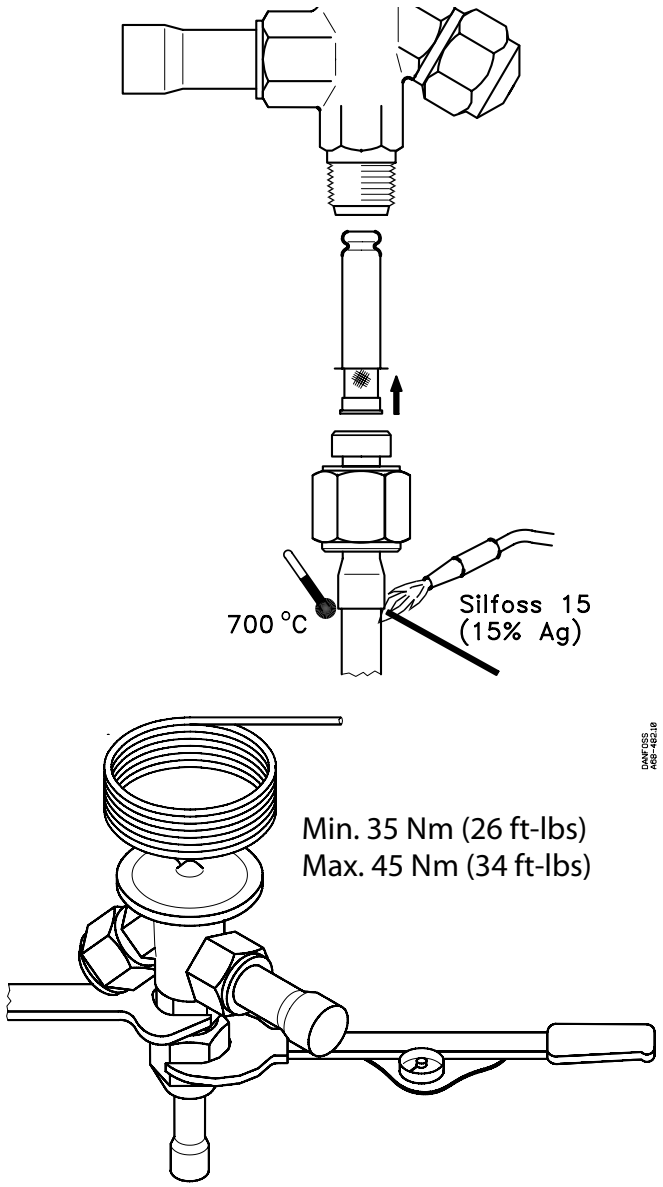
Danfoss
68U147.10

Instructions

Solder adaptor for T 2 / TE 2

068R9519

068R9519

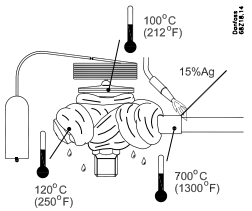


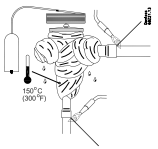
Instructions

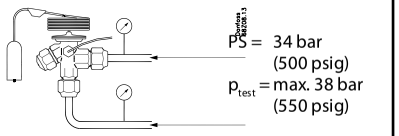
T 2 / TE 2

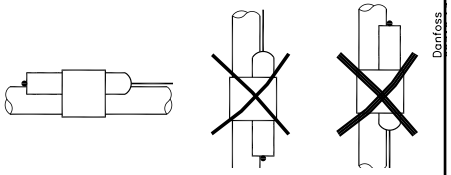
with steel cap. tube

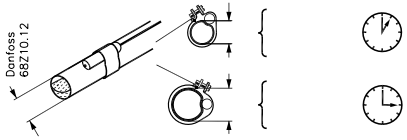
068R9536

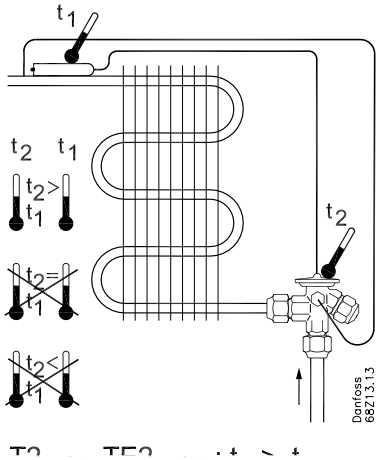


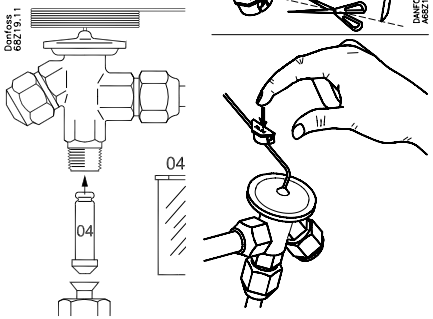


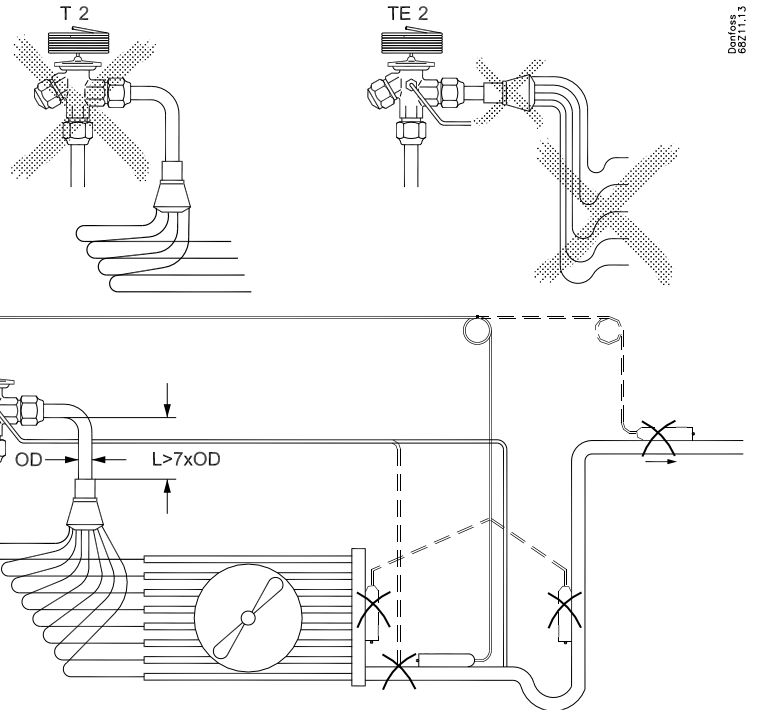


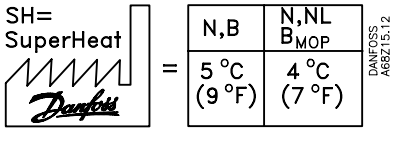


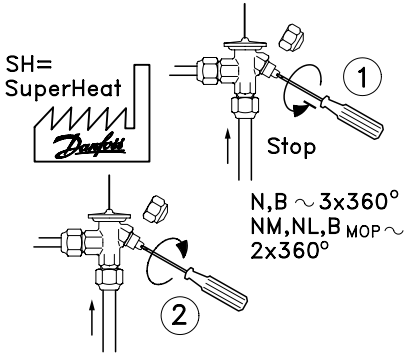


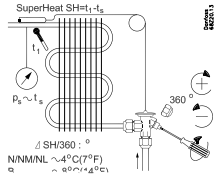












RI1AN400

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INSTRUCTIONS

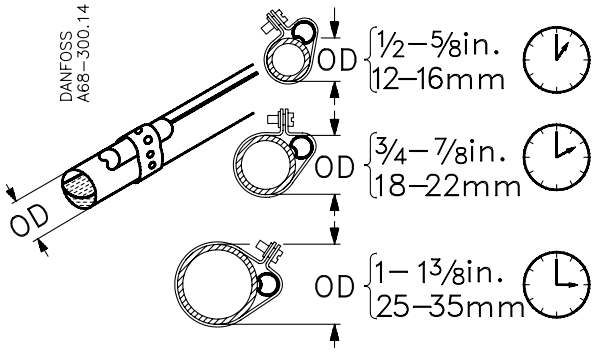
T 2/ TE 2, flare × flare

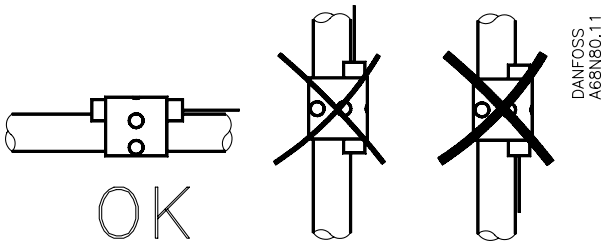
N-B

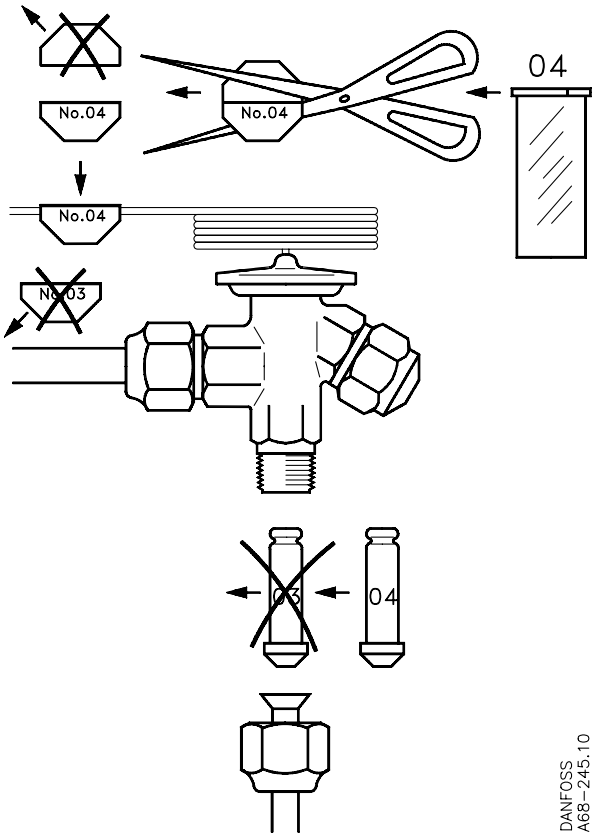
068R9706

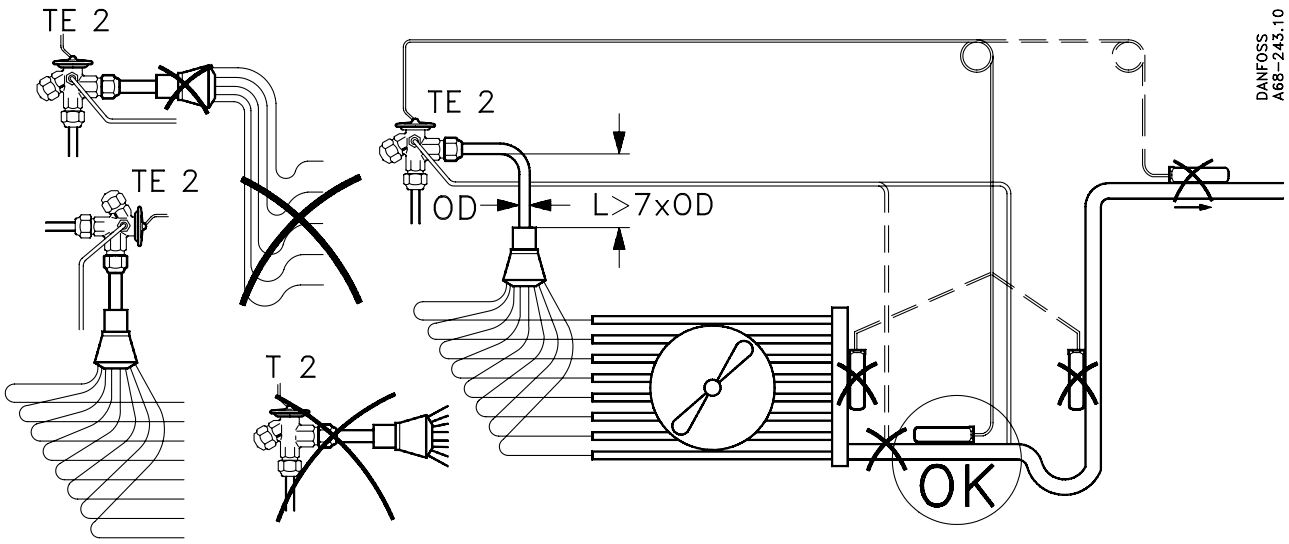
PS = 34 bar (500 psig)

p_{test} = max. 38 bar (550 psig)

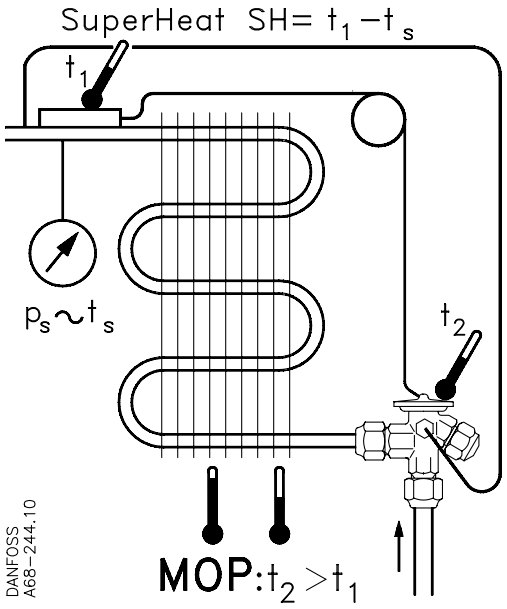


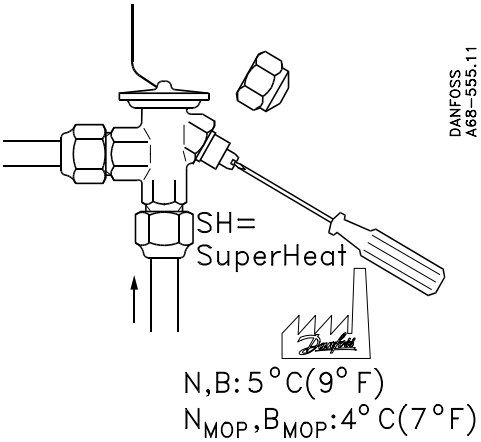


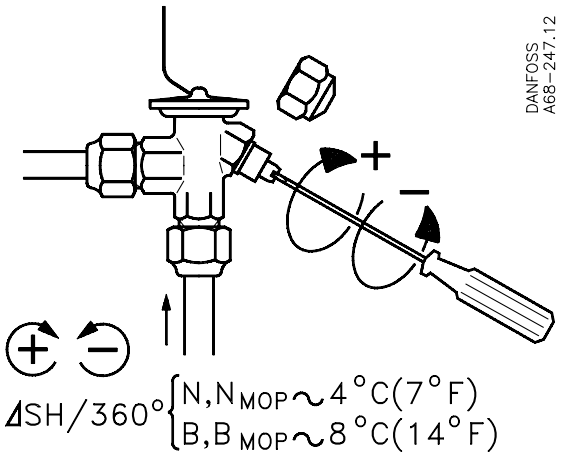


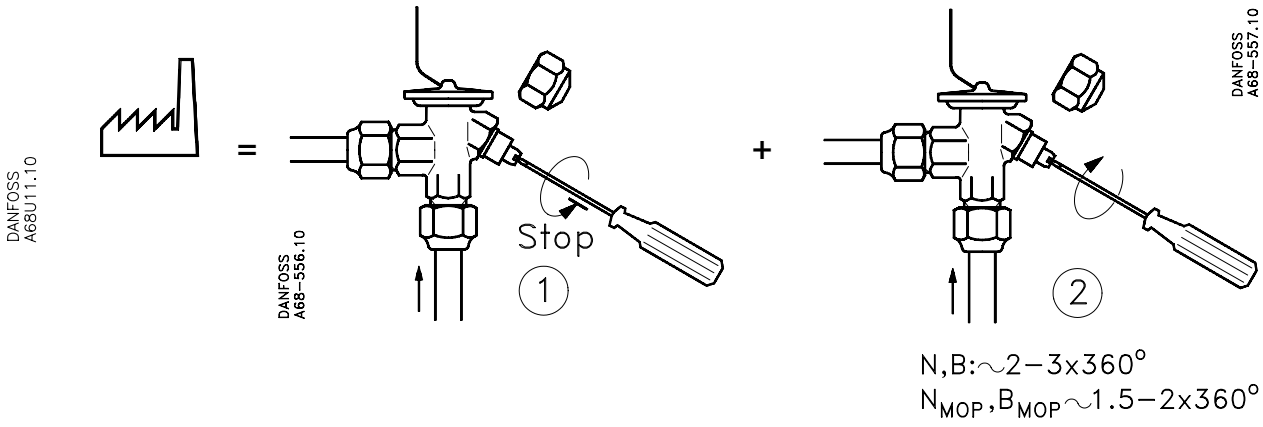


RI1AE300









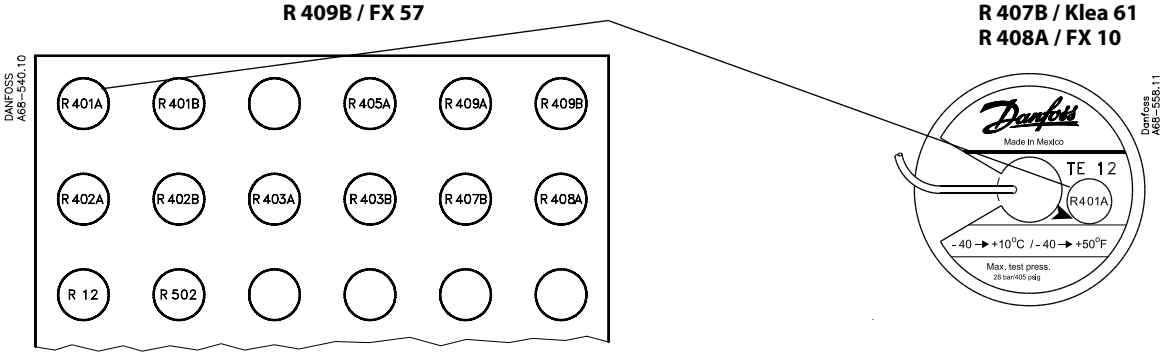
Instructions

T/TE 2, TE 5, TE 12
R 12 ⇒ R 40.. R 502 ⇒ R 40..

068R9538

R 12 ⇒ R 401A / MP 39
R 401B / MP 66
R 405A / G 2015
R 409A / FX 56
R 409B / FX 57

R 502 ⇒ R 402A / HP 80
R 402B / HP 81
R 403A / 69 S
R 403B / 69 L
R 407B / Klea 61
R 408A / FX 10

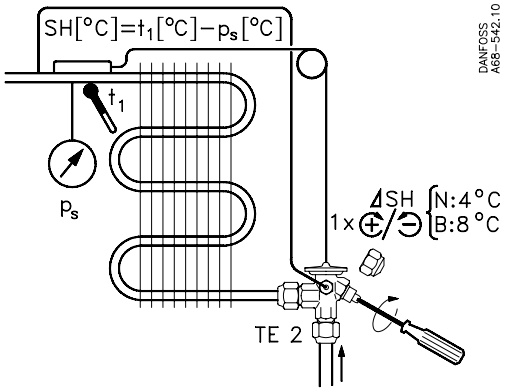


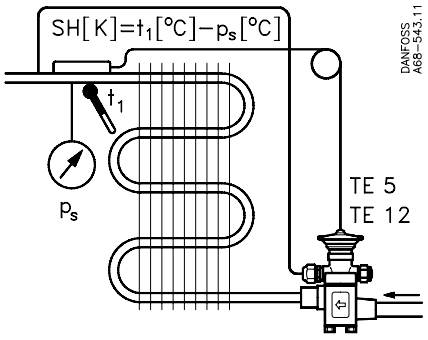
	R 12			N = −40 → +10°C		
	R 401A	R 401B		R 405A	R 409A	R 409B
TF 2/ TEF 2	0	0		−1/4	0	0
TEF 5	0	0		0	+1	0
TEF 12	0	−1		−2	+1	0

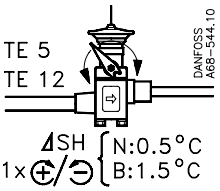
	R 502			N = −40 → +10°C		
	R 402A	R 402B	R 403A	R 403B	R 407B	R 408A
TY 2/ TEY 2	−1/2	0	−3/4	−3/4	0	0
TEY 5	0	0	−7	−7	0	0
TEY 12	0	0	−9	−10	0	0

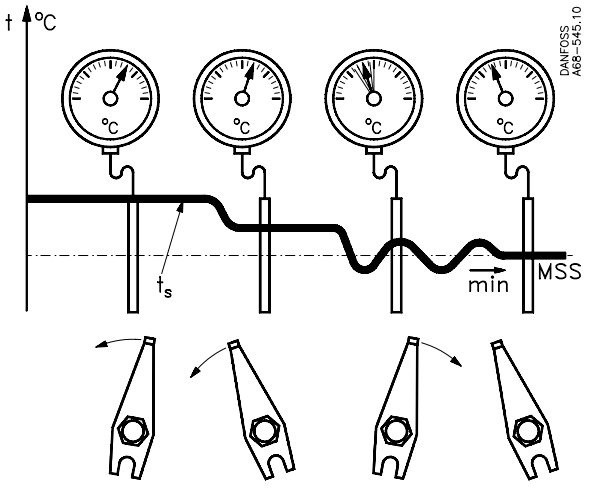
	R 502			B = −60 → −25°C		
	R 402A	R 402B	R 403A	R 403B	R 407B	R 408A
TY 2/ TEY 2	−1/4	0	−1/2	−1/2	0 *)	0
TEY 5	0	0	−4	−4	0 *)	0
TEY 12	−2	−2	−4	−4	0 *)	+2

*) For 40 → −25°C

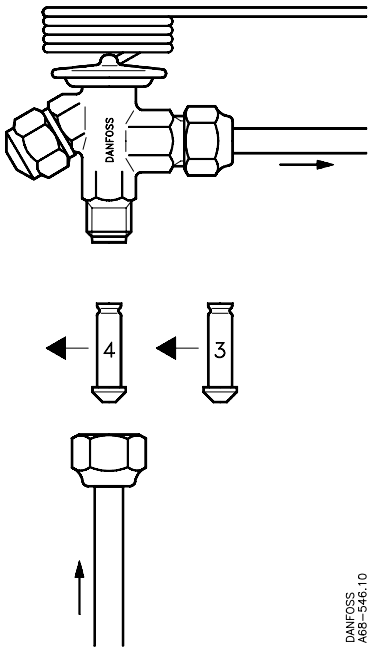






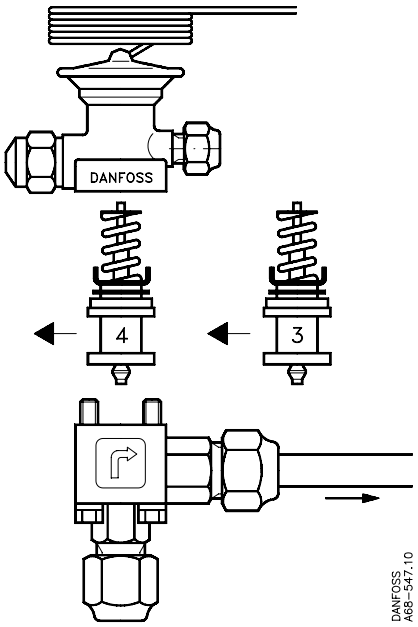


$Q_{R\,401A}$ kW ≈ 1.35 × $Q_{R\,12}$ kW
$Q_{R\,401B}$ kW ≈ 1.4 × $Q_{R\,12}$ kW
$Q_{R\,405A}$ kW ≈ 1.1 × $Q_{R\,12}$ kW
$Q_{R\,409A}$ kW ≈ 1.4 × $Q_{R\,12}$ kW
$Q_{R\,409B}$ kW ≈ 1.4 × $Q_{R\,12}$ kW



T 2, TE 2

$Q_{R\,402A}$ kW ≈ 1.15 × $Q_{R\,502}$ kW
$Q_{R\,402B}$ kW ≈ 1.25 × $Q_{R\,502}$ kW
$Q_{R\,403A}$ kW ≈ 1.25 × $Q_{R\,502}$ kW
$Q_{R\,403B}$ kW ≈ 1.03 × $Q_{R\,502}$ kW
$Q_{R\,407B}$ kW ≈ 1.18 × $Q_{R\,502}$ kW
$Q_{R\,408A}$ kW ≈ 1.35 × $Q_{R\,502}$ kW

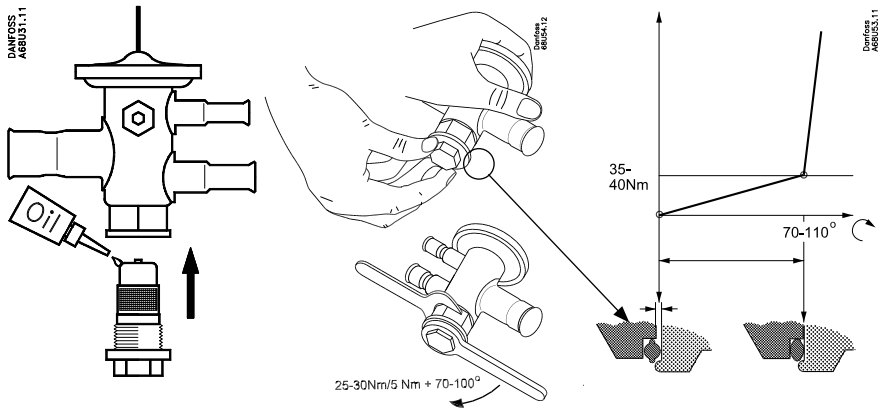


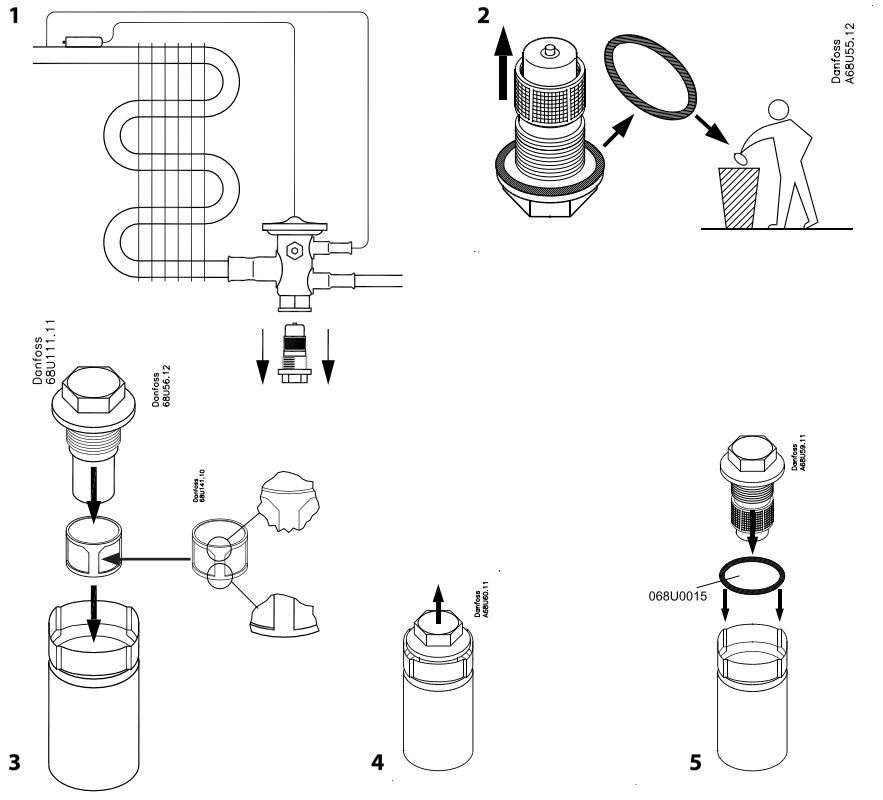
TE 5, TE 12

Instructions

Thermostatic expansion valves
TUA/ TCAE

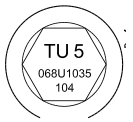
068R9549



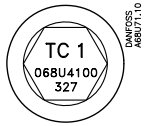


068R9549

Example: TUA



Example: TCAE



Range N: –40 → +10 °C / –40 → +50 °F

Orifice no.	Rated capacity in kW						Rated capacity in tons (TR)						Code no.
	R 22	R 134a	R 404A	R 407C	R 507		R 22	R 134a	R 404A	R 407C	R 507		
TUA													
0	0.60	0.47	0.47	0.63	0.45		0.17	0.13	0.13	0.18	0.13		**068U1030**
1	0.9	0.7	0.70	0.92	0.66		0.25	0.19	0.19	0.26	0.19		**068U1031**
2	1.3	1.0	1.0	1.4	1.0		0.36	0.28	0.28	0.38	0.27		**068U1032**
3	1.8	1.4	1.4	1.9	1.3		0.50	0.39	0.39	0.53	0.38		**068U1033**
4	2.6	2.1	2.1	2.8	2.0		0.75	0.59	0.60	0.80	0.57		**068U1034**
5	3.5	2.7	2.8	3.8	2.7		1.00	0.78	0.79	1.1	0.76		**068U1035**
6	5.3	4.1	4.2	5.7	4.0		1.5	1.2	1.2	1.6	1.1		**068U1036**
7	7.0	5.5	5.6	7.5	5.3		2.0	1.6	1.6	2.1	1.5		**068U1037**
8	11.0	8.2	8.4	11.0	8.0		3.0	2.3	2.4	3.2	2.3		**068U1038**
9	16.0	12.0	12.0	17.0	12.0		4.5	3.5	3.5	4.8	3.4		**068U1039**
TCAE													
1	17.5	12.0	13.5	19.0	13.0		5.0	3.5	3.8	5.4	3.8		**068U4100**
2	21.0	14.5	16.0	23.0	16.0		6.0	4.1	4.5	6.5	4.5		**068U4101**
3	26.5	18.0	20.0	28.5	20.0		7.5	5.2	5.7	8.1	5.6		**068U4102**

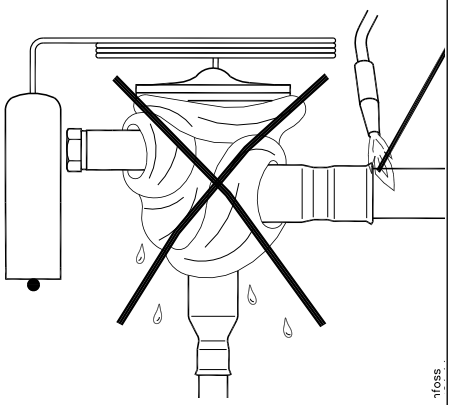
Range B: –60 → –25 °C / –75 → –15 °F

Orifice no.	Rated capacity in kW					Rated capacity in tons (TR)					Code no.
	R 22	R 404A	R 407C	R 507		R 22	R 404A	R 407C	R 507		
TUA											
0	0.52	0.36	0.46	0.39		0.15	0.10	0.13	0.11		**068U1030**
1	0.68	0.50	0.58	0.53		0.19	0.14	0.16	0.15		**068U1031**
2	0.85	0.64	0.70	0.70		0.24	0.18	0.20	0.20		**068U1032**
3	1.2	0.89	1.0	1.0		0.34	0.25	0.28	0.28		**068U1033**
4	1.8	1.3	1.4	1.4		0.50	0.37	0.41	0.41		**068U1034**
5	2.3	1.8	1.9	1.9		0.66	0.50	0.55	0.55		**068U1035**
6	3.5	2.7	2.9	2.9		1.0	0.75	0.82	0.82		**068U1036**
7	4.7	3.5	3.9	3.9		1.3	1.0	1.1	1.1		**068U1037**
8	7.1	5.3	5.8	5.8		2.0	1.5	1.6	1.7		**068U1038**
9	10.4	7.8	8.5	8.6		2.9	2.2	2.4	2.4		**068U1039**
TCAE											
1	12.5	10.9	10.3	19.2		3.6	2.7	3.1	2.9		**068U4100**
2	16.4	14.1	13.5	25.0		4.7	3.5	4.0	3.8		**068U4101**
3	21.6	19.4	18.0	33.2		6.1	4.6	5.5	5.1		**068U4102**

Instructions

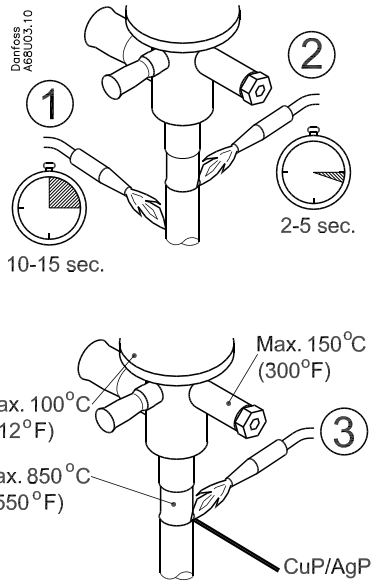
Thermostatic expansion valves type TU

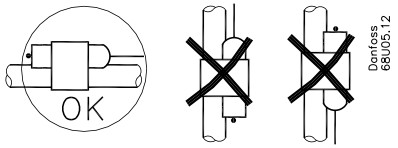
068R9543

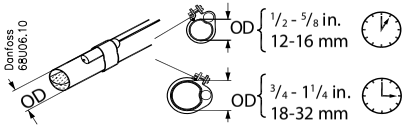


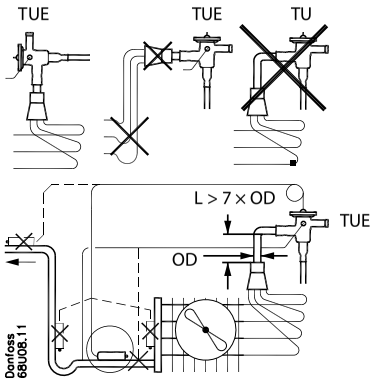
P_{test} (excl. R410A) = max. 37.5 bar (540 psig)

P_{test} (R410A) = max. 47 bar (680 psig)









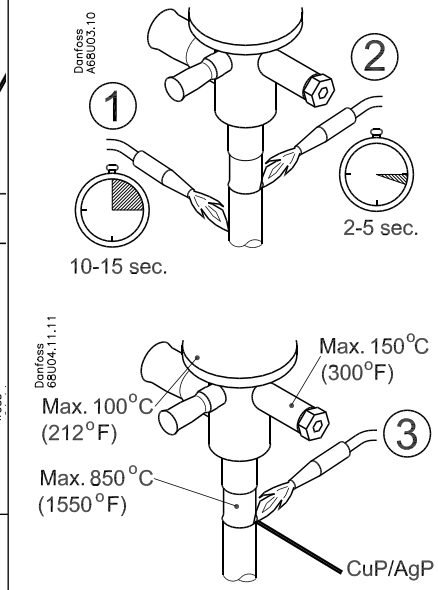
Instructions

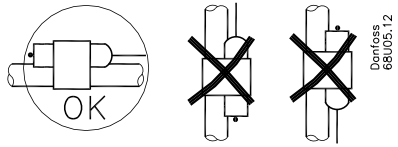
Thermostatic expansion valves type TU

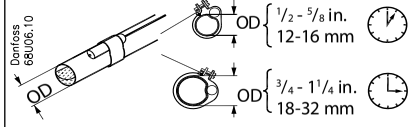
068R9543

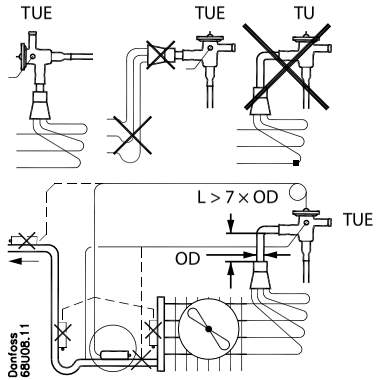
P_{test} (excl. R410A) = max. 37.5 bar (540 psig)

P_{test} (R410A) = max. 47 bar (680 psig)









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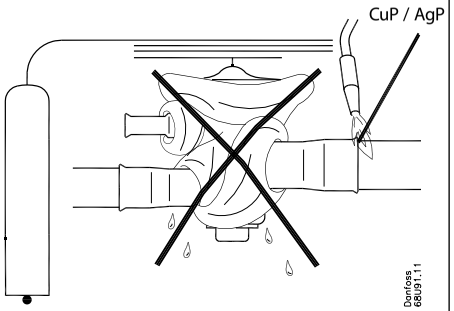
Instructions

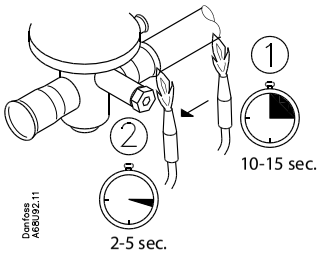
Thermostatic expansion valve

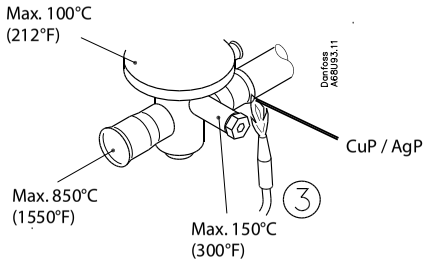
type TC

068R9552

068R9552

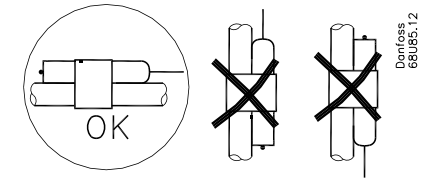


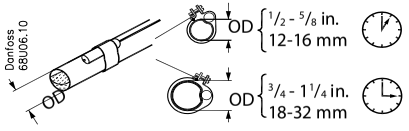


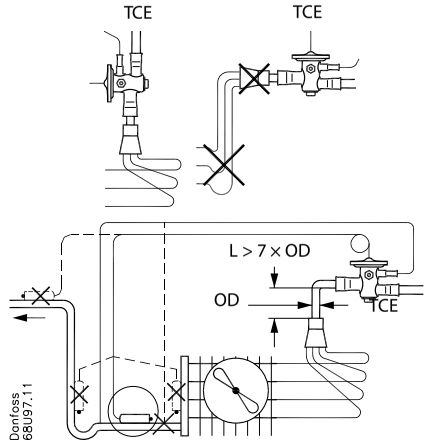


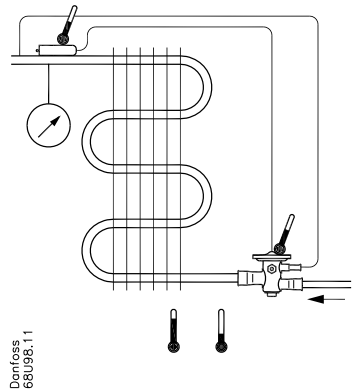
P_{test} (excl. R410A) = max. 37.5 bar (540 psig)

P_{test} (R410A) = max. 47 bar (680 psig)



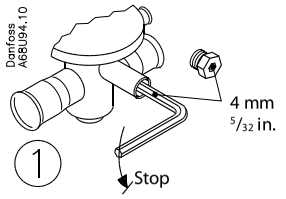


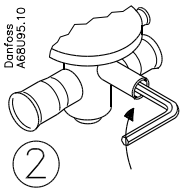


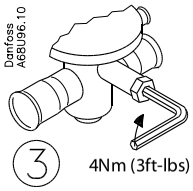


SS = Static Superheat

N, B: 5°C (9°F)
N_{MOP}, NM: 4°C (7°F)
B_{MOP}: 4°C (7°F)







R22 R407C	R134a	R404A R507	R410A	ΔSS 1 × + −
	N			1°C (1.8°F)
N	NM	N,B	N,B	1.5°C (2.7°F)
NM,B		NM	NM	2°C (3.6°F)

DKRCC.PI.AH0.B2.02 / 520H2938

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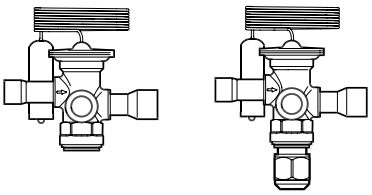
Instructions

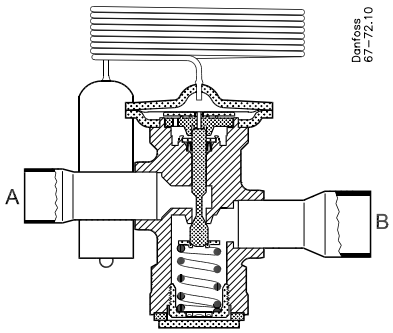
TR 6



067R9508

067R9508

PS = 42 bar /(MWP = 610 psig)
p_{test} = max. 47 bar (680 psig)



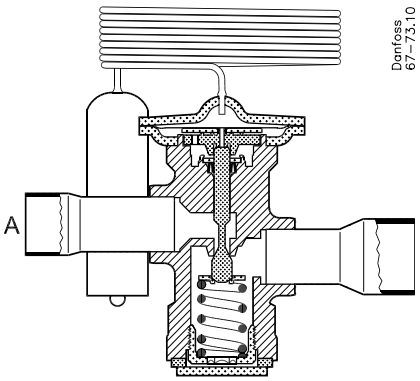
Fixed setting

Flow direction:

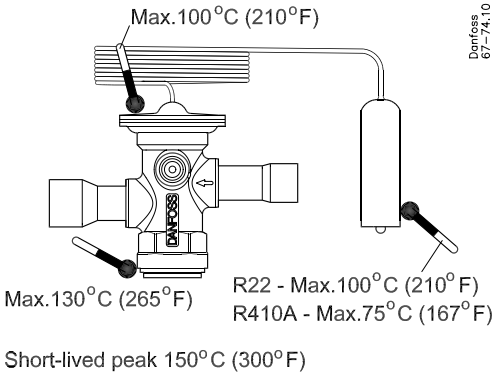
Normal: A→B

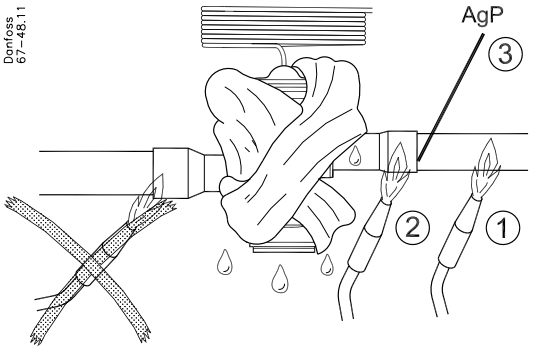
Reverse: B→A

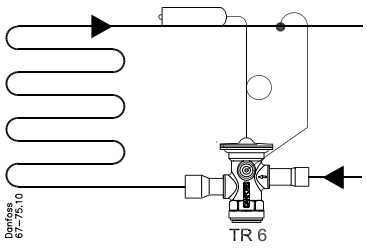
$Q_{nom.}$ A → B [kW] = 100%
$Q_{nom.}$ B → A [kW] = 80%

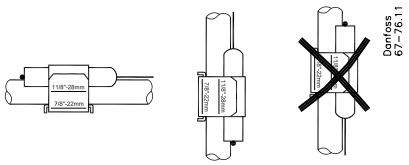


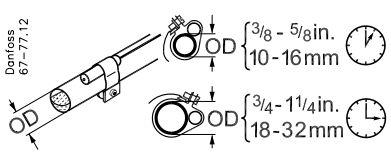
Adjustable setting

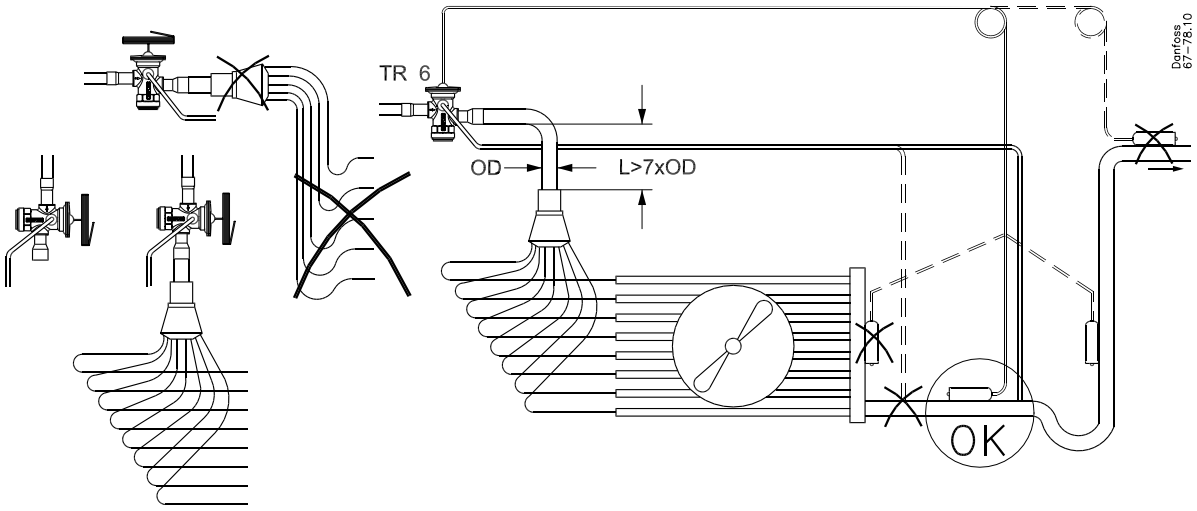


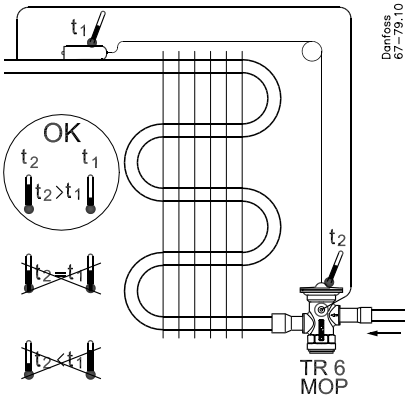


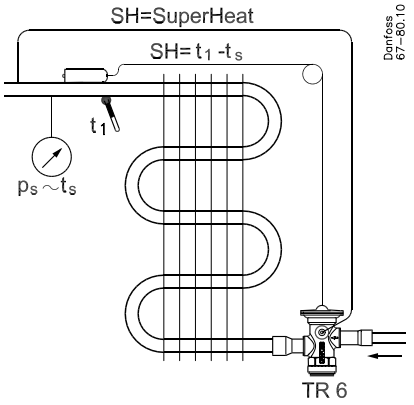


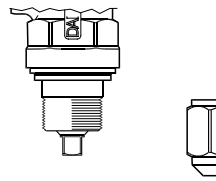


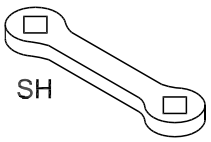












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67-81.10

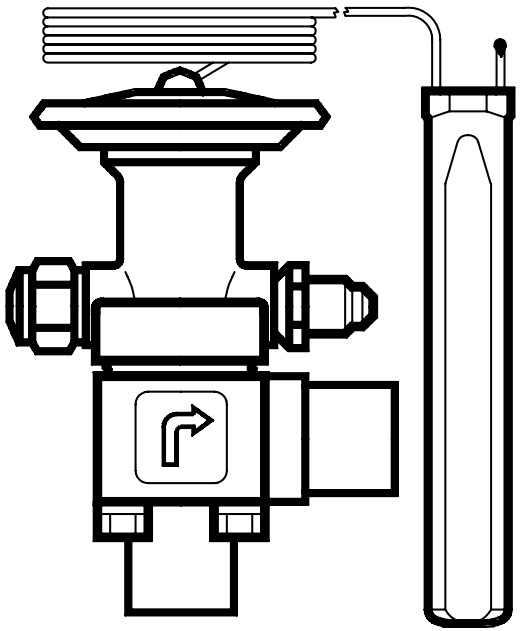
SS = 2°C (3.6°F) or according to customer specification

	Number of turns from SS to **tight** spring	Number of turns from SS to **loose** spring
R22	+7.25	–4.25
R410A	+9.5	–2

Instructions

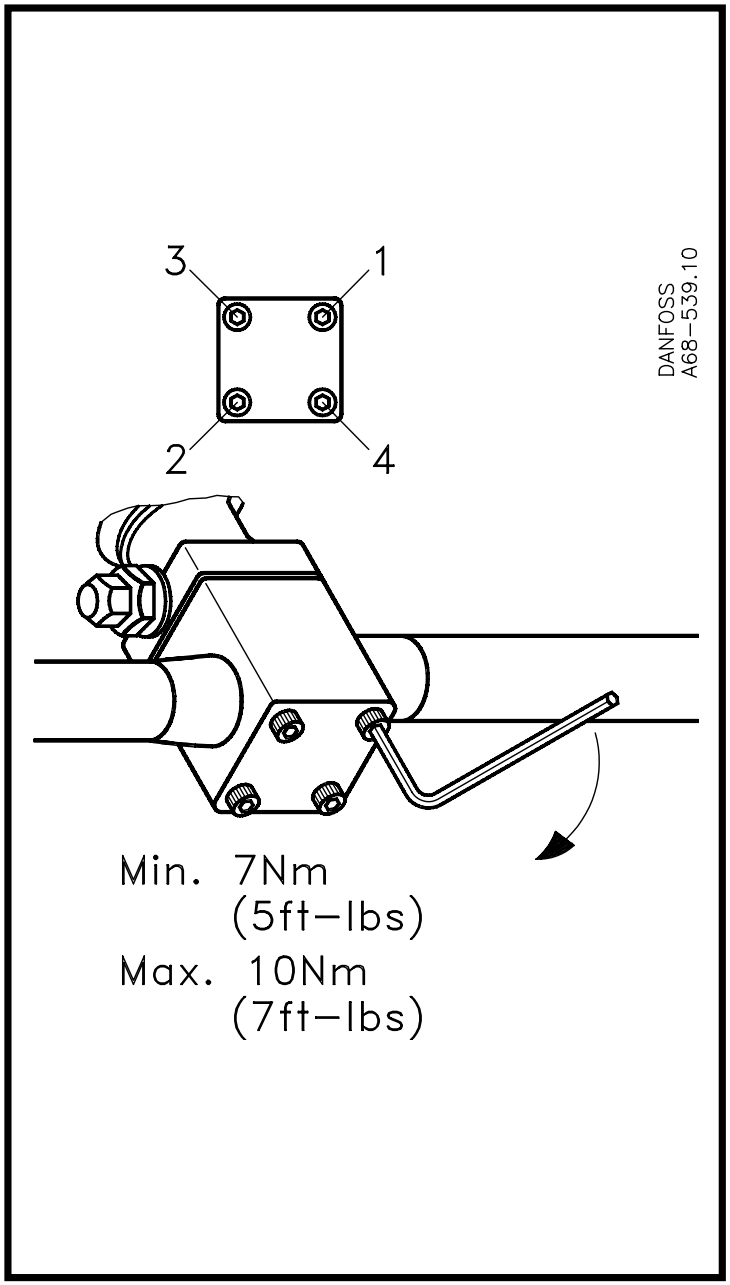
068R9687

TE 5, TE 12, TE 20, TE 55



 RI1A1G00

068R9687



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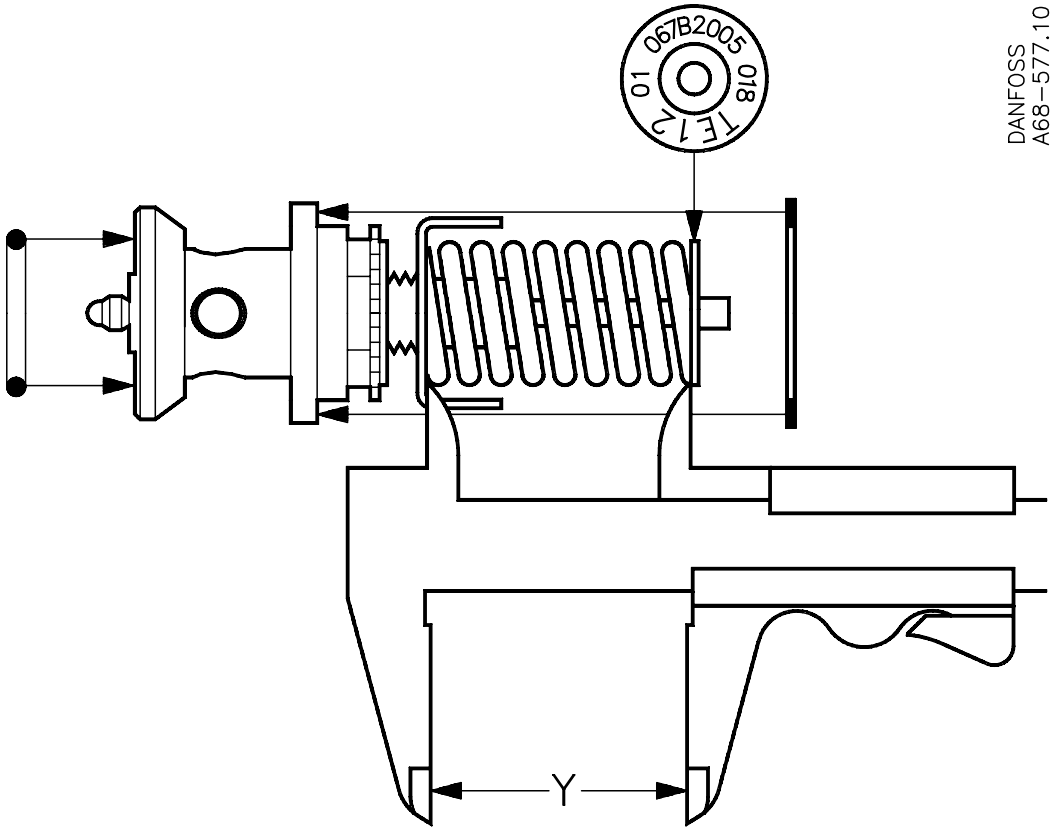
Instructions

Orifice for TE 12

067R9501



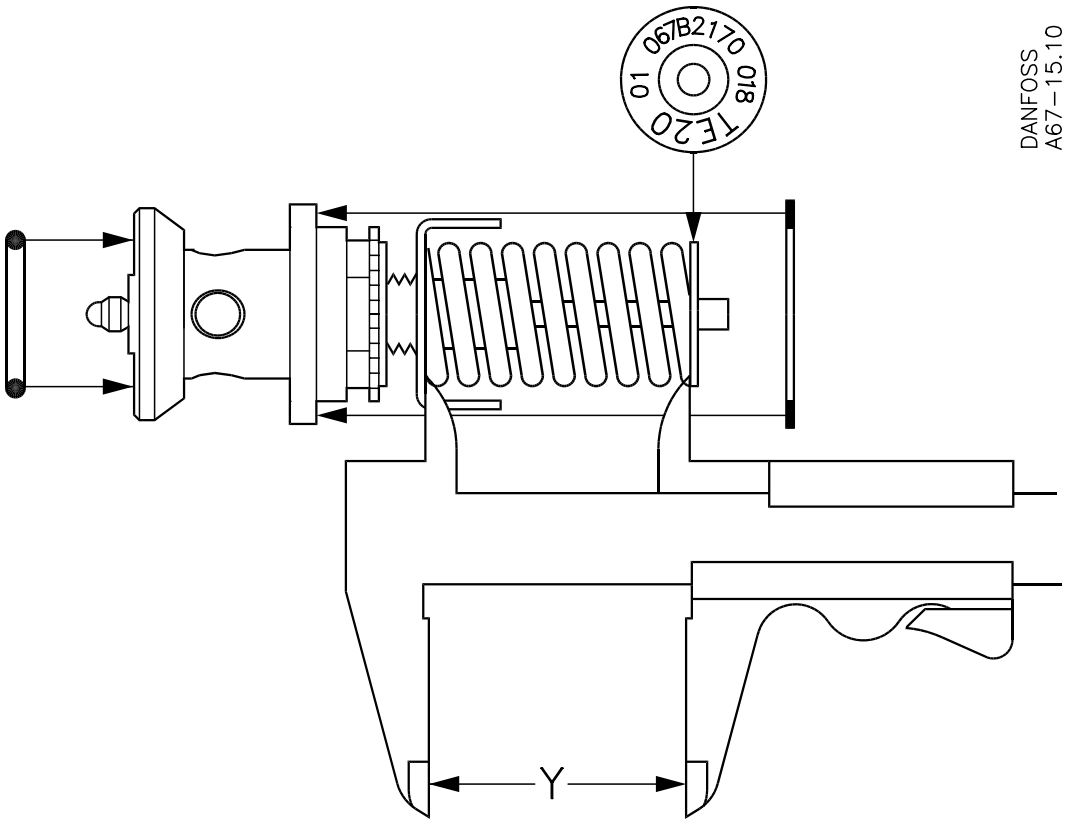
Orifice no.	Orifice code no.	Y = ±1 mm				
		R 12	R 22	R 134a	R 404A	R 502
01	067B2005	36	35	35	36	32
02	067B2006	36	35	35	36	32
03	067B2007	36	35	35	36	32
04	067B2008	36	35	35	36	32

Instructions

Orifice for TE 20

067R9502

067R9502

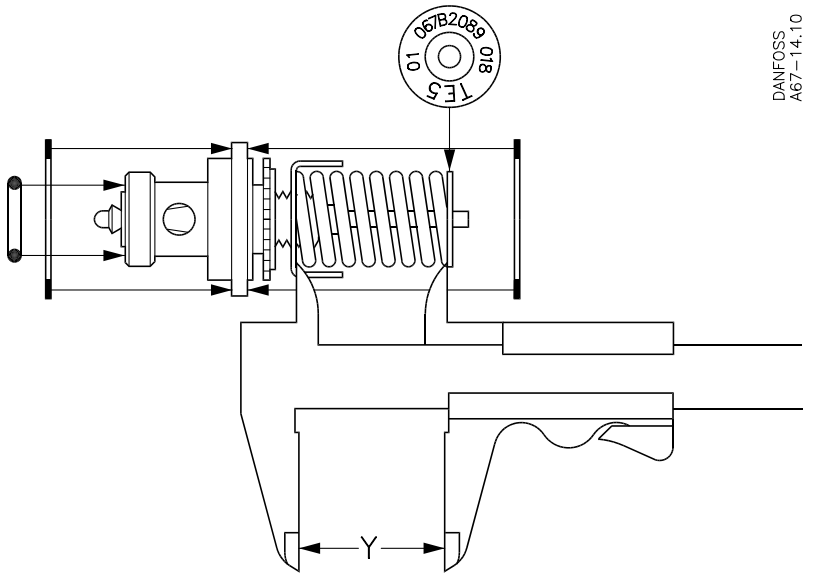


Orifice no.	Orifice code no.	Y = ±1 mm							
		R12 Range	R22 Range		R134a Range	R404A Range		R502 Range	
		N	N	B	N	N	B	N	B
01	**067B2170**	34			32				
01	**067B2172**		33.5	36					
01	**067B2175**					35	35	33	33

Instructions

Orifice for TE 5 and PHT

067R9500



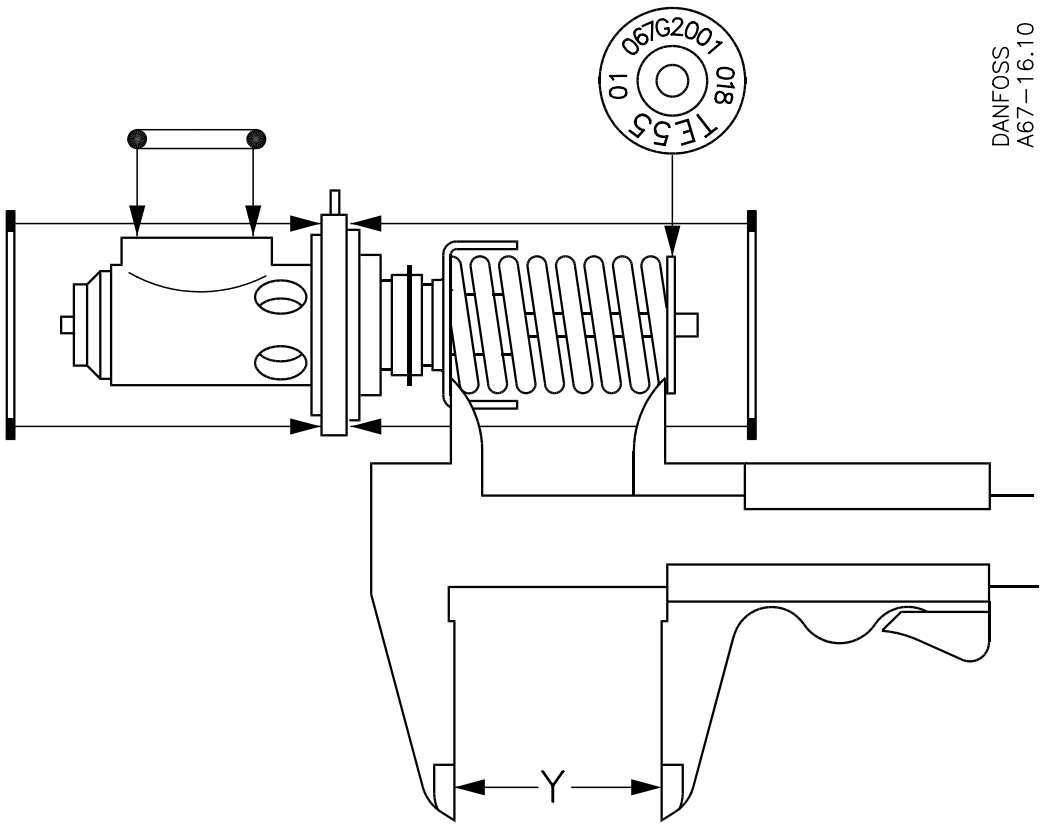
Valve type	Orifice no.	**Orifice code no.**	Y = ±1 mm			
			R 22	R 134a	R 404A	R 407C
TE 5	01	**067B2089**	26	27	27.5	26
TE 5	02	**067B2090**	26	27	27.5	26
TE 5	03	**067B2091**	26	27	27.5	26
TE 5	04	**067B2092**	26	27	27.5	26
PHT	02	**067B2090**	27	26	27.5	27

Instructions

Orifice for TE 55

067R9503

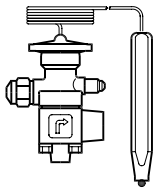
067R9503



Orifice no.	Orifice code no.	Y = ±1 mm							
		R 12 Range	R 22 Range		R 134a Range	R 404A Range		R 502 Range	
		N	N	B	N	N	B	N	B
01	067G2001	33			31				
02	067G2002	33			31				
01	067G2005		32	34					
02	067G2006		32	34					
01	067G2011					33	33	33	34
02	067G2012					33	33	33	34

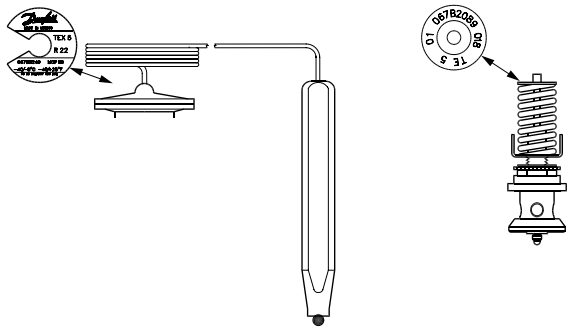
Instructions

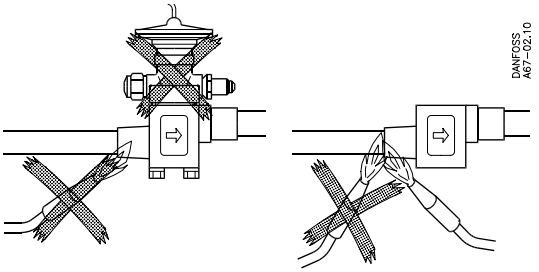
TE 5, TE 12, TE 20, TE 55

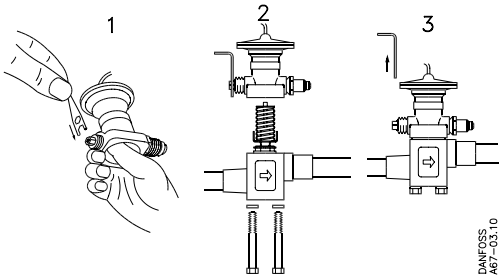


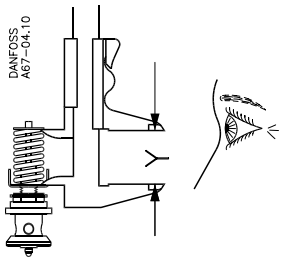
067R9504

067R9504



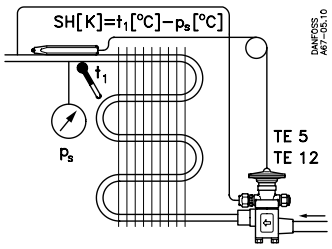


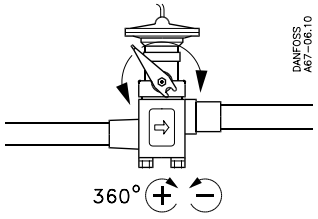




Factory setting

SH = 4°C (7°F)





TE5,TE12: N ∼ 0.5 °C(1°F)SH; B ∼ 1.5 °C(3°F)SH

TE20,TE55: N ∼ 0.5 °C(1°F)SH; B ∼ 1.0 °C(2°F)SH

Range N = –40°C → +10°C (–40°F → +50°F)
Range B = –60°C→ –25°C (–75°F → –15°F)

TE 5

Orifice no.	Orifice code no.	Y = ±1 mm							
		R22 Range		R134a Range	R404A Range		R12 Range	R502 Range	
		N	B	N	N	B	N	N	B
01	**067B2089**	26	26	27	27.5	27.5	28	26	26
02	**067B2090**	26	26	27	27.5	27.5	28	26	26
03	**067B2091**	26	26	27	27.5	27.5	28	26	26
04	**067B2092**	26	26	27	27.5	27.5	28	26	26

TE 12

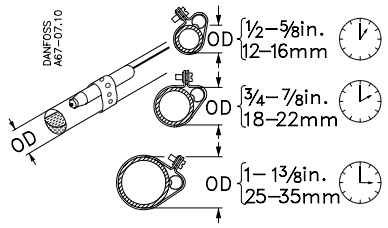
Orifice no.	Orifice code no.	Y = ±1 mm							
		R22 Range		R134a Range	R404A Range		R12 Range	R502 Range	
		N	B	N	N	B	N	N	B
01	**067B2005**	35	35	35	36	36	36	32	32
02	**067B2006**	35	35	35	36	36	36	32	32
03	**067B2007**	35	35	35	36	36	36	32	32
04	**067B2008**	35	35	35	36	36	36	32	32

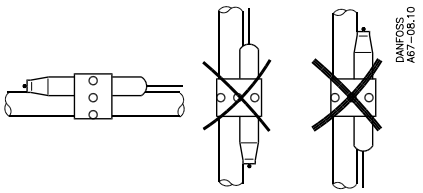
TE 20

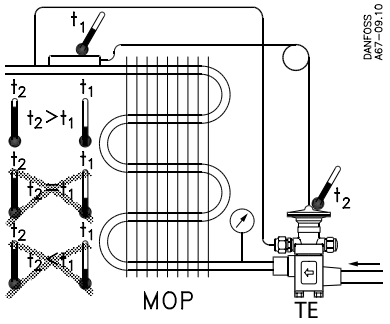
Orifice no.	Orifice code no.	Y = ±1 mm							
		R22 Range		R134a Range	R404A Range		R12 Range	R502 Range	
		N	B	N	N	B	N	N	B
01	**067B2170**	–	–	32	–	–	34	–	–
01	**067B2172**	33.5	36	–	–	–	–	–	–
01	**067B2175**	–	–	–	35	35	–	33	33

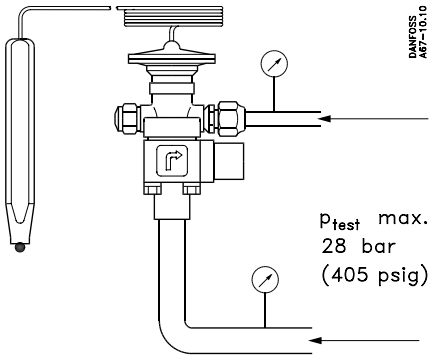
TE 55

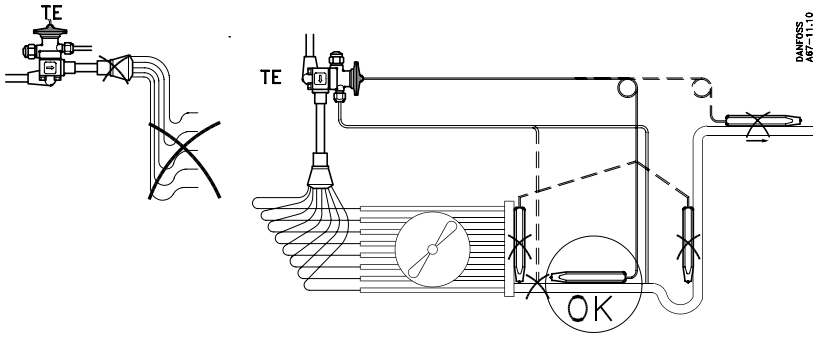
Orifice no.	Orifice code no.	Y = ±1 mm							
		R22 Range		R134a Range	R404A Range		R12 Range	R502 Range	
		N	B	N	N	B	N	N	B
01	**067G2001**	–	–	31	–	–	33	–	–
02	**067G2002**	–	–	31	–	–	33	–	–
01	**067G2005**	32	34	–	–	–	–	–	–
02	**067G2006**	32	34	–	–	–	–	–	–
01	**067G2011**	–	–	–	33	33	–	33	34
02	**067G2012**	–	–	–	33	33	–	33	34

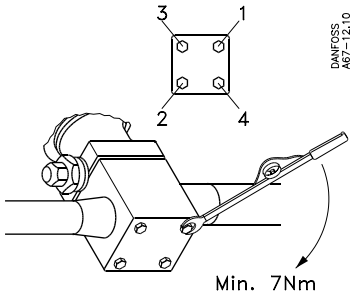




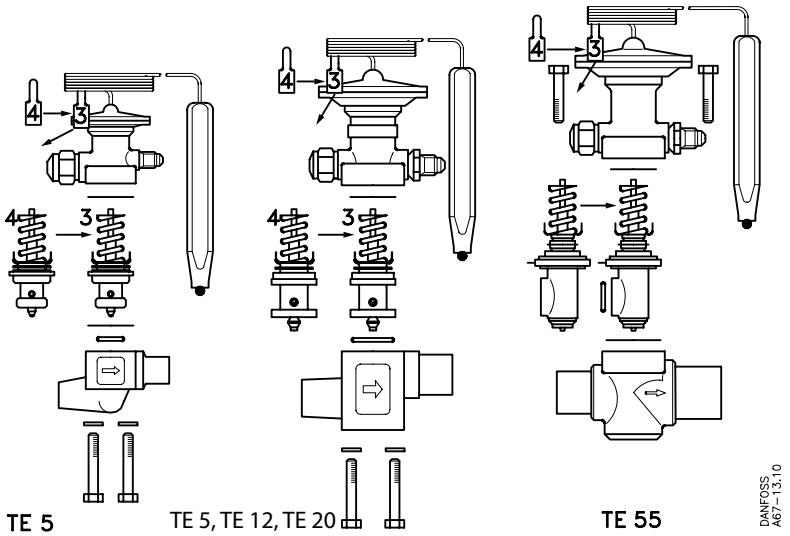






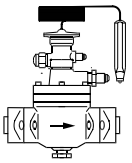


Min. 7Nm
(0.7kpm/5ft–lbs)
Max. 10Nm
(1kpm/7ft–lbs)



Instructions

PHT



026R9510

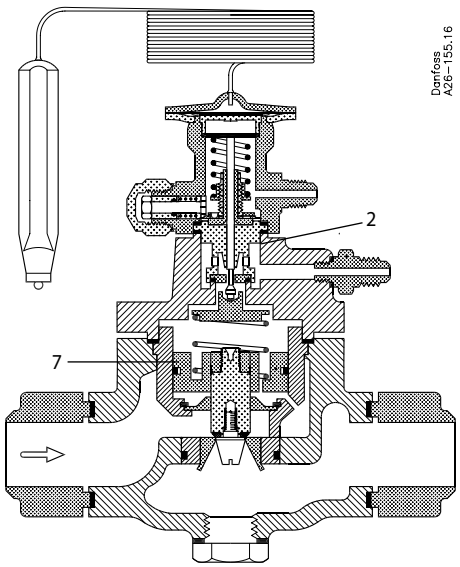


Fig. 1 PHT 85

For at opnå et fuldstændig tæt system
To obtain completely tight system
Zum Erzielen eines absolut dichten Systems
Pour obtenir un système complètement étanche
Para obtener un sistema completamente estanco
Per ottenere un sistema completamente ermetico

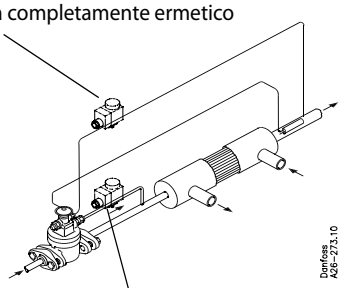


Fig. 2

Til on/off funktion
For on/off function
Für Ein/Aus Funktion
Pour fonction marche/arrêt
Para función on/off
Per funzione on/off

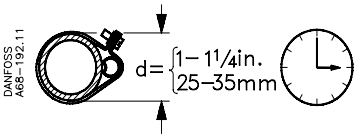


Fig. 3

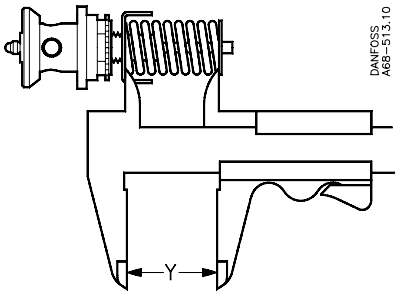


Fig. 4

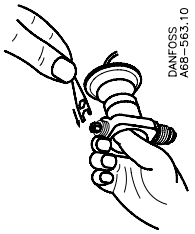


Fig. 5

I

		Nr./No./n°	»Y« ±0.2 mm
PHTX	R 22	**067B2090**	27
PHTY	R 502	**067B2090**	27
PHTN	R 134a	**067B2090**	26
PHTS	R 404A	**067B2090**	27.5

DANSK

Pilotstyret, termostatisk ekspansionsventil

PS = 28 bar/MWP = 400 psig
Prøvetryk = 42 bar (600 psig)
Maks. følertemperatur = 100°C (installeret)
60°C (ikke installeret)
Note for PHT 300:
PS = 20 bar/MWP = 300 psig
Prøvetryk = 28 bar (400 psig)

Montering
PHT monteres i væskeledningen umiddelbart før fordamperen med gennemstrømning i pilretningen. Ventilen skal monteres vandret med pilotenheden opad (se fig. 2).
Pilotledningen sluttes til på ventilens afgangsside umiddelbart efter ventilen.
Evt. kan en magnetventil, EVR 3, indskydes i pilotledningen for on/off funktion.
Den udvendige trykudligning tilsluttes ovenpå sugeledningen efter føleren.
Ventilen kan kun virke med tilsluttet udligning. For at opnå et fuldstændig tæt system og for at undgå en mindre lækage over det termostatiske elements trykstift skal der installeres en magnetventil (EVR 3) i udligningsledningen.
Føleren fastspændes med følerklemmen.
Den monteres bedst på siden af en vandret sugeledning (se fig. 3).
Føleren må ikke monteres i eller efter væskelommer, nær rørsamlinger og massive jern- eller metaldele eller andre steder hvor den kan blive udsat for falske temperaturpåvirkninger.

Justering og service
Fabriksindstilling: 4°C overhedning ved 0°C følertemperatur. Ud fra denne indstilling kan overhedningen formindskes eller forøges afhængigt af anvendelsesformålet. Drejes indstillingsspindelen i pilotventilen venstre om (mod uret), formindskes overhedningen – og omvendt. En omdrejning ~ 0.5°C.
Fabriksindstillingen kan kontrolleres ved måling af pilotindsatsens »Y«-mål (se fig. 4 og tabel I).
Tabel I angiver bestillingsnr. og »Y«-mål for pilotdyseindsatserne (2): Før pilotventilen samles igen efter evt. kontrol af »Y«-målet, trykkes indstillingsspindelen udad og fastholdes, ved at den medleverede nøgle anbringes med gaflen bag spindelens møtrik (se fig. 5).
Ønskes kapaciteten for ventilen ændret, udskiftes hoveddyseindsatsen (7) (se reservedelskatalog). Tvangsåbning af ventilen kan opnås ved at udskifte bundproppen med en manuel betjeningsspindel, bestillingsnr. 026HO222.

Reservedele
Se reservedelskatalog (RK0XG).

ENGLISH

Pilot-controlled, thermostatic expansion valve

Technical data
PS = 28 bar/MWP = 400 psig
Test pressure = 42 bar (600 psig)
Max. bulb temperature = 100°C (mounted)
60°C (not mounted)
Note for PHT 300:
PS = 20 bar/MWP = 300 psig
Test pressure = 28 bar (400 psig)

Fitting
PHT is designed for fitting in the liquid line immediately before the evaporator, with flow in the direction of the arrow. The valve must be fitted horizontal with the pilot unit upwards (see fig. 2). The pilot line is connected to the discharge side of the valve immediately after the valve. If required, a solenoid valve, EVR 3, can be inserted in the pilot line for on/off function. The external pressure equalising line is connected to the suction line after the bulb. The valve cannot operate unless pressure equalising is connected. To obtain a completely tight system and to avoid minor leak across the push pin of the thermostatic element a solenoid valve (EVR 3) must be installed in the equalization line.
The bulb is fixed in position with the bulb clip, its best position being on the side of a horizontal suction line (see fig. 3).

The bulb must not be fitted in or after liquid pockets, pipe joints or iron and metal parts, nor in places where it can be exposed to false temperature effects.

Adjustment and service
Factory setting = 4°C superheat at 0°C bulb temperature. From this setting the superheat can be decreased or increased dependent on the application requirement. Anti-clockwise rotation of the regulating spindle in the pilot valve decreases superheat, clockwise rotation increases it. One turn ~ 0.5°C.
The factory setting can be checked by measuring the "Y" dimension of the pilot assembly. See fig. 4 and table I. Table I gives the code No. and "Y" dimension for the pilot nozzle assembly (2). Before the pilot valve is reassembled, after checking the "Y" dimension the superheat adjustment spindle must be pressed out and retained by inserting the jaws of the spanner supplied under the nut on the spindle (see fig. 5).

If a change of valve capacity is required the main nozzle assembly (7) must be replaced (see Spare Parts catalogue).
Valve open override can be obtained by replacing the base plug with a manual operating spindle, code No. 026H0222.

Spare parts
See Spare Parts catalogue (RK0XG).

DEUTSCH

Pilotgesteuertes, thermostatisches Expansionsventil

Technische Daten
PS = 28 bar/MWP = 400 psig
Prüfdruck = 42 bar (600 psig)
Max. Fühlertemperatur
= 100°C (eingebaut)
= 60°C (nicht eingebaut)
Anmerkung bezüglich PHT 300:
PS = 20 bar/MWP = 300 psig
Prüfdruck = 28 bar (400 psig)

Montage
PHT ist unmittelbar vor dem Verdampfer mit Durchfluß in Pfeilrichtung in die Flüssigkeitsleitung einzubauen, und zwar in waagerechter Lage mit nach oben gerichteter Piloteinheit (siehe Abb. 2). Die Pilotleitung ist unmittelbar hinter dem Ventil an die Austrittsseite des Ventils anzuschliessen. Evtl. kann ein Magnetventil, EVR 3, in die Pilotleitung eingeschaltet werden für Ein/Aus Funktion. Der äussere Druckausgleich ist an die Oberseite der Saugleitung hinter dem Fühler anzuschliessen. Das Ventil arbeitet nur mit angeschlossenem Druckausgleich. Zum Erzielen eines absolut dichten Systems und zur Vermeidung kleinerer Leckagen über den Druckstift des thermostatischen Elements ist das EVR 3 Magnetventil in der Ausgleichsleitung einzubauen.

Der Fühler wird mit Hilfe der Fühlerschelle befestigt. Am besten montiert man den Fühler seitlich an einer waagerechten Saugleitung (siehe Abb. 3).

Der Fühler darf nicht in oder hinter Flüssigkeitssäcken, in der Nähe von Rohrverbindungen und massiven Eisen- oder Metallteilen oder an sonstigen Stellen, wo er falschen Temperatureinwirkungen ausgesetzt werden kann, montiert werden.

Einstellung und Wartung
Werkseinstellung: 4°C Überhitzung bei einer Fühlertemperatur von 0°C. Von dieser Einstellung ausgehend kann die Überhitzung je nach dem Verwendungszweck verringert oder erhöht werden. Dreht man die Einstellspindel des Pilotventils nach links (im entgegengesetzten Uhr-zeigersinn) wird die Uberhitzung geringer – und umgekehrt. Eine volle Umdrehung der Spindel ~ 0.5°C.
Die Werkseinstellung kann durch Überprüfung des »Y«-Masses des Piloteinsatzes kontrolliert werden (siehe Abb. 4 und Tabelle I).
Aus Tabelle I gehen die Artikelnummern und die »Y«-Masse der Pilotdüseneinsätze (2) hervor.
Bevor nach einer etwaigen Kontrolle des »Y«-Masses das Pilotventil wieder zusammengebaut wird, ist die Einstellspindel nach aussen zu drücken und in dieser Lage festzuhalten, indem man die Gabel des mitgelieferten Schüssels hinter die Mutter der Spindel legt (siehe Abb. 5).
Wünscht man die Leistung des Ventils zu ändern, so ist der Hauptdüseneinsatz (7) auszuwechseln (siehe Ersatzteil Katalog). Ein Zwangsöffnen des Ventils ist möglich indem man den Bodenstopfen gegen eine Handbetätigung Artikel-Nr. 026H0222 auswechselt.

Ersatzteile
Siehe Ersatzteil Katalog (RK0XG).

FRANÇAIS

Détendeur thermostatique à commande pilote

Caractéristiques techniques
PS = 28 bar/MWP = 400 psig
Pression d'essai = 42 bar (600 psig)
Température max. du bulbe =
= 100°C (installé)
= 60°C (non monté)
Remarque pour le PHT 300 :
PS = 20 bar/MWP = 300 psig
Pression d'essai = 28 bar (400 psig)

Montage
Monter le PHT sur la conduite de liquide immédiatement en amont de l'évaporateur, avec passage du fluide dans le sens de la flèche. Le détendeur doit être monté horizontalement, l'unité pilote orientée vers le haut (voir fig. 2). Raccorder la conduite pilote au côté départ du détendeur, immédiatement en aval de celui-ci. Eventuellement, une électrovanne type EVR 3 peut être piquée sur la conduite pilote pour fonction marche/arrêt. Relier la tuyauterie d'égalisation de pression extérieure sur le dessus de la conduite d'aspiration, en aval du bulbe. Le détendeur ne peut fonctionner que si cette tuyauterie d'égalisation est raccordée. Pour obtenir un système complètement étanche et éviter toute fuite par la goupille de l'élément thermostatique, une électrovanne (EVR 3) doit être installée dans la conduite d'égalisation.
Fixer le bulbe à l'aide du pince-bulbe.
Le monter, de préférence, sur le côté d'une conduite d'aspiration horizontale(voir fig. 3). Ne pas monter le bulbe dans des poches de liquide ni après celles-ci, près de raccordements de tuyaux ou de pièces métalliques massives, ni aux endroits où il peut être exposé à de fausses influences de température.

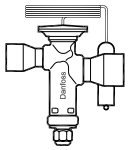
Réglage et entretien
Réglage en usine: surchauffe de 4°C à une température de bulbe de 0°C. A partir de ce réglage, la surchauffe peut être diminuée ou augmentée en fonction du but d'utilisation. Si la tige de réglage de la vanne pilote est tournée vers la gauche (sens inverse d'horloge), la surchauffe diminue – et inversement. Un tour de la vis ~ 0.5°C.
Le réglage fait à l'usine peut être contrôlé en vérifiant la dimension «Y» de la cartouche pilote. Voir fig. 4 et tableau I.
Le tableau I indique les numéros de code et les dimensions «Y» des cartouches d'orifice pilote (2).
Avant de remonter la vanne pilote après contrôle éventuel de la dimension «Y» presser la tige de réglage vers l'extérieur et la maintenir en plaçant la fourche de la clé comprise dans la fourniture derrière l'écrou de la tige (voir fig. 5).
Si l'on désire modifier la capacité du détendeur, changer de cartouche d'orifice principal (7), (voir dans le catalogue de pièces détachées).
Le détendeur peut être ouvert de force en remplaçant le bouchon de fond par une tige de manoeuvre manuelle, n° de code 026H0222.

Pièces de rechange
Voir dans le catalogue de pièces détachées(RK0XG).

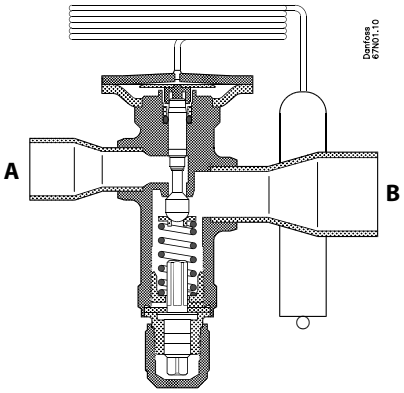
Instruction

067R9603

Thermostatic expansion valves, type TGE10, TGE20, TGE40



PB = 46 bar / MWP = 667 psig
P_{test} = 49.5 bar (720 psig)

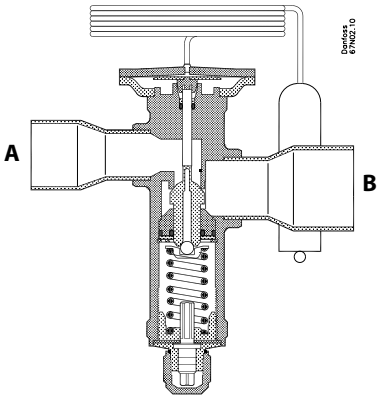


Balanced port design
Adjustable setting

Flow direction
→
Normal: A → B
←
Reverse: B → A

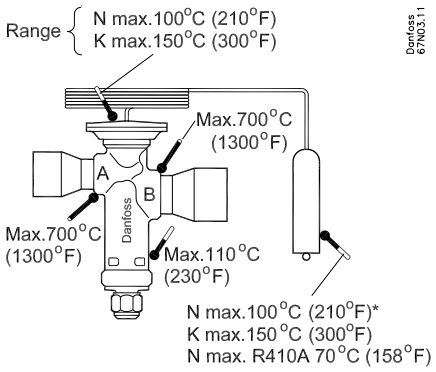
Qnom A → B (kW) = 100%

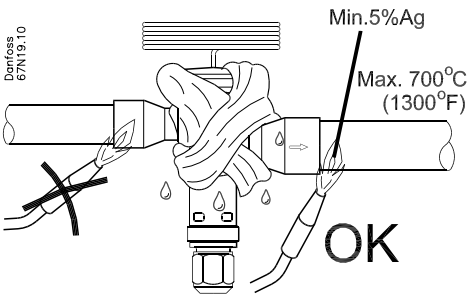
Qnom B → A (kW) = 85%

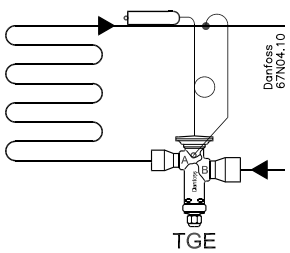


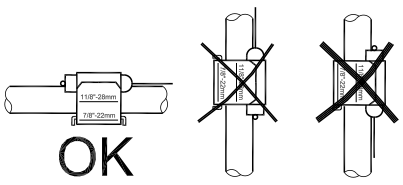
Balanced port design
(biflow & adjustable setting)

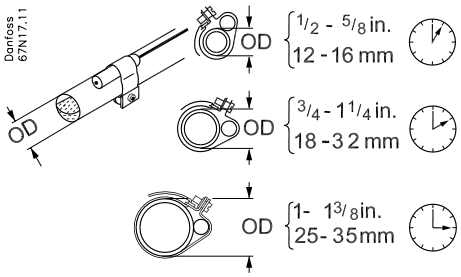
Refrigerant
R22
TGE10: 3 → 11TR / 10.5 → 38.5 kW
TGE20: 12.5 → 20 TR / 44 → 70 kW
TGE40: 26 → 40 TR / 91 → 140 kW



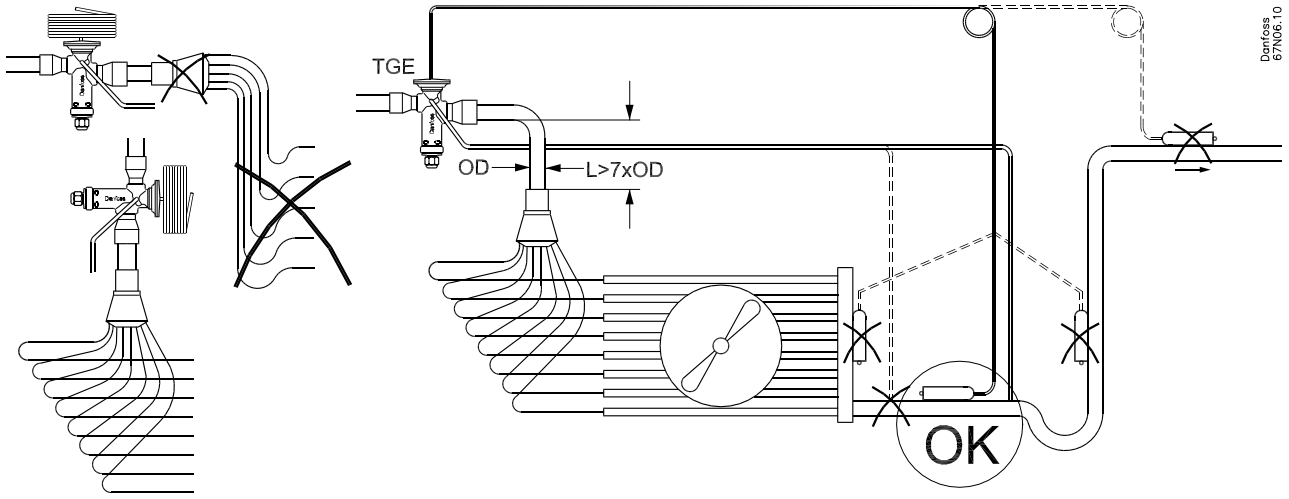


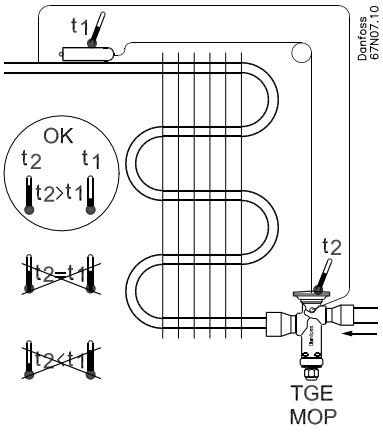


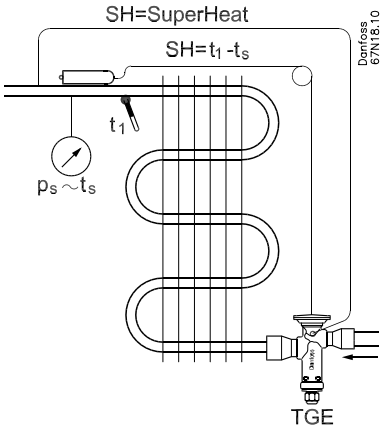


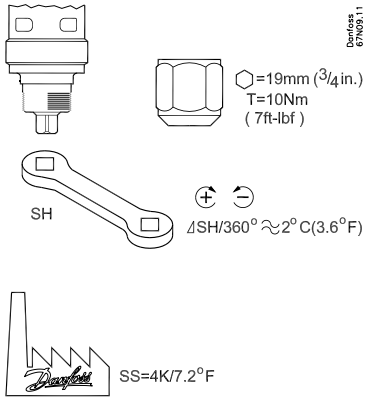


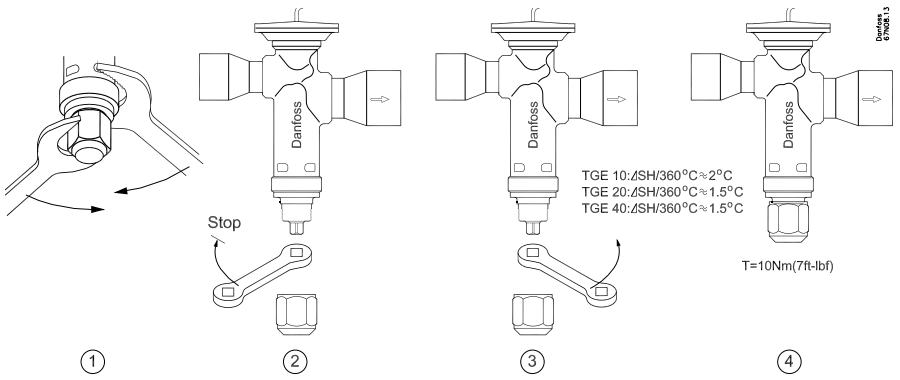
067R9603





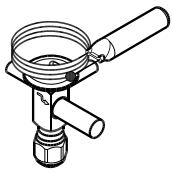




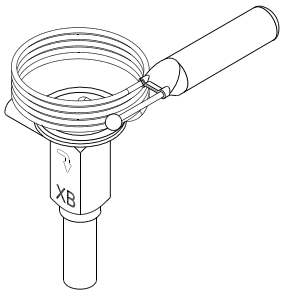


Instructions

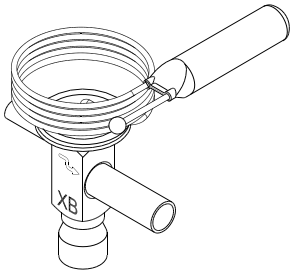
TD1 / TDE1



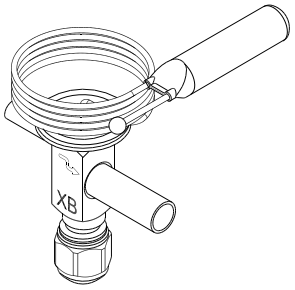
068R9805



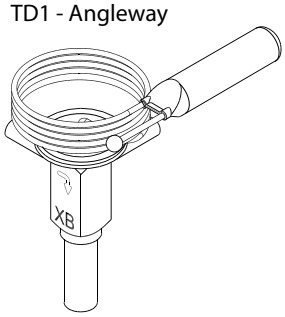
TD1 - Angleway



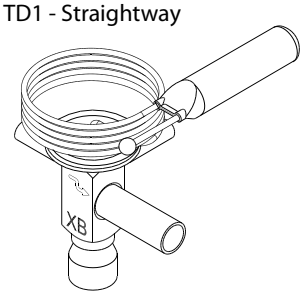
TD1 - Straightway



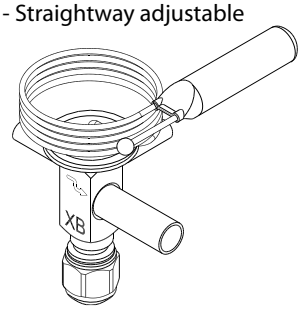
TD1 - Straightway adjustable



TDE1 - Angleway



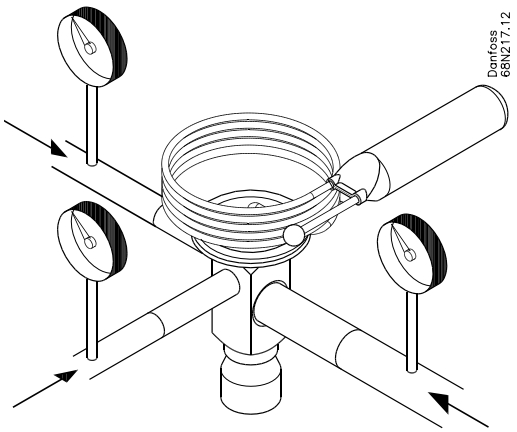
TDE1 - Straightway

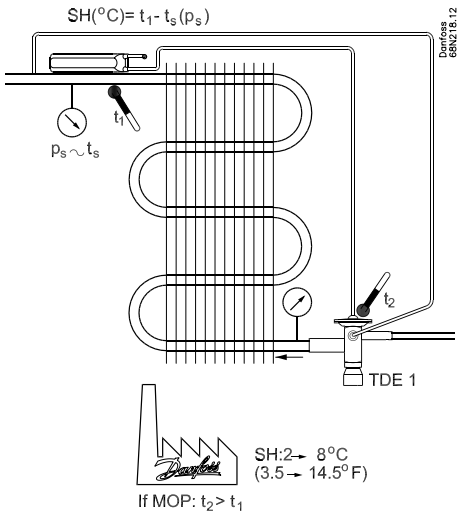


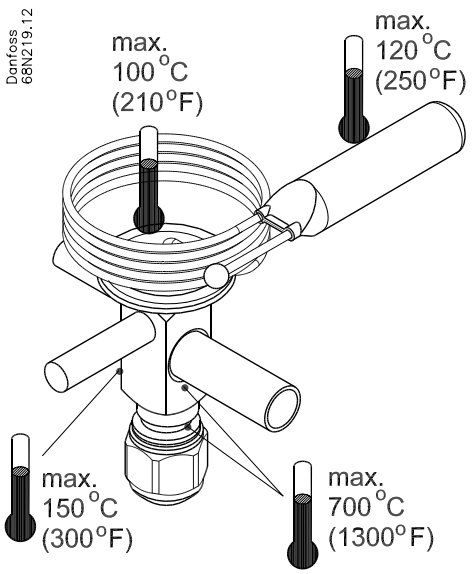
TDE1 - Straightway, adjustable

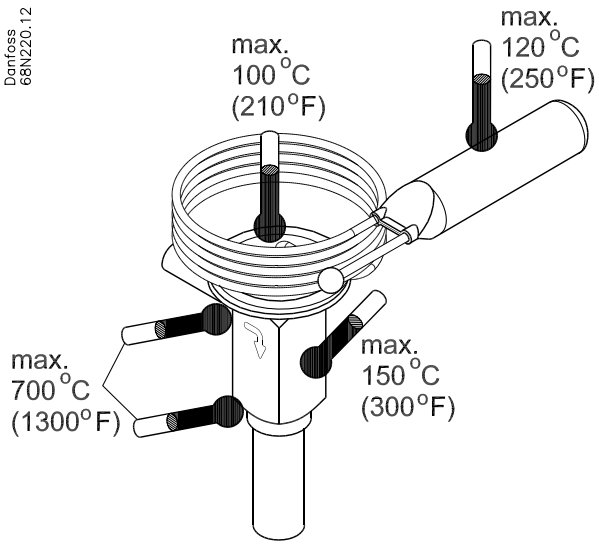
X = Orifice no. B = Bleed

PS (MWP) = 34 bar (500 psig)
Test pressure (p') = 37.5 bar (540 psig)









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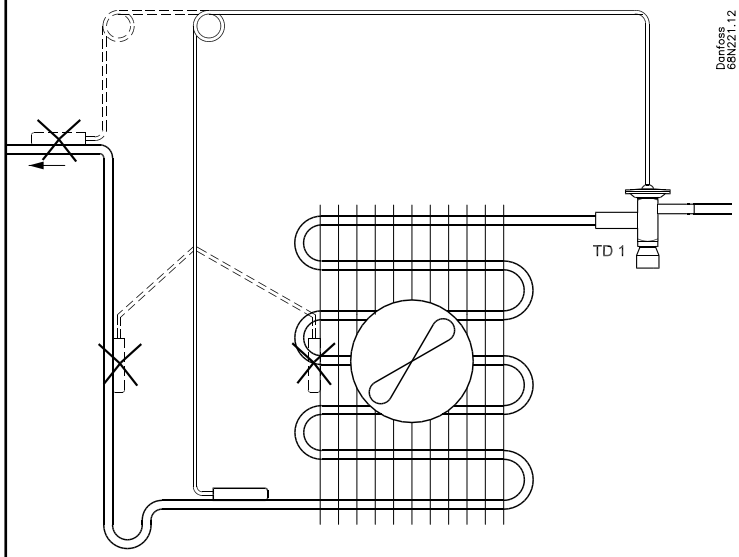
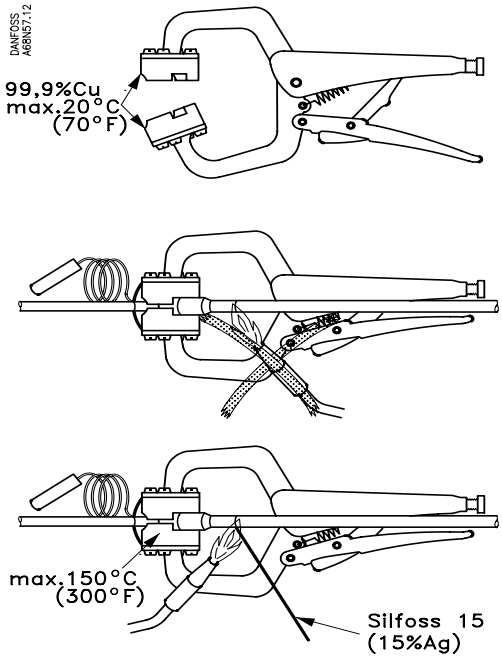
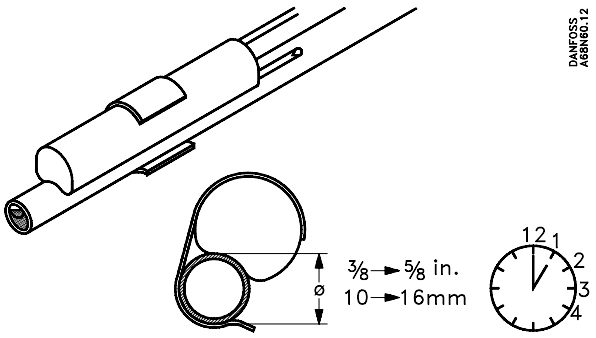
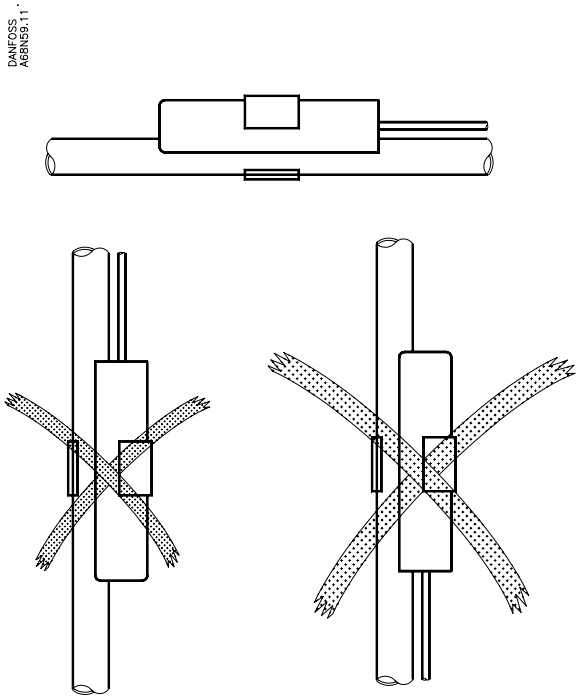






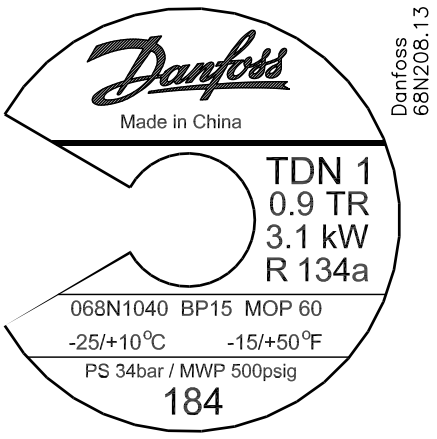


Identification

Essential valve data is given on the element label.

Example:

TDN1 / TDEN1	=	Type (N: R 134a)
0.9 TR	=	Rated capacity $Q_{nom.}$ in Tons of Refrigeration
3.1 kW	=	Rated capacity $Q_{nom.}$ in kW
R 134a	=	Refrigerant
–25/+10°C	=	Evaporating temperature range (°C)
–15/+50°F	=	Evaporating temperature range (°F)
068N1040	=	Code number
BP15	=	Bleed 15%
MOP 60	=	Max. Operation Pressure
PS 34 bar		
MWP 500 psig	=	Max. working pressure
184	=	Date marking (week **18**, year 200**4**)

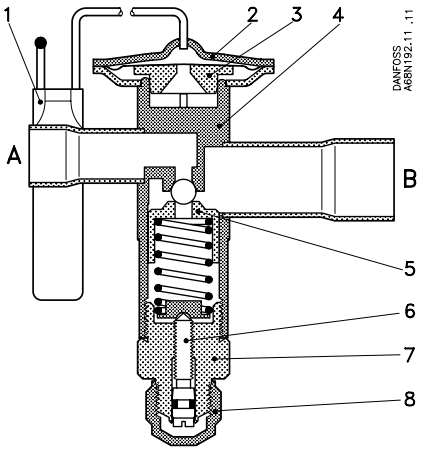


Instructions

TDE / TDE B

068R9539

R 22
PB = 28 bar / MWP = 400 psig
p_{test} = max. 32 bar (460 psig)



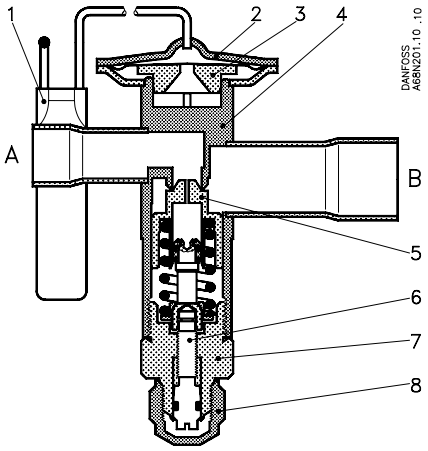
Single port design (TDE)

Flow direction:

Normal: A→B

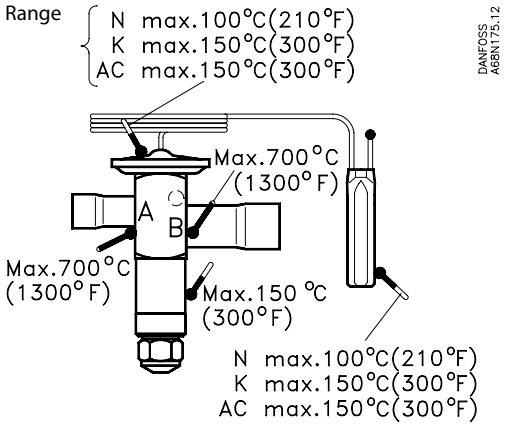
Reverse: B→A

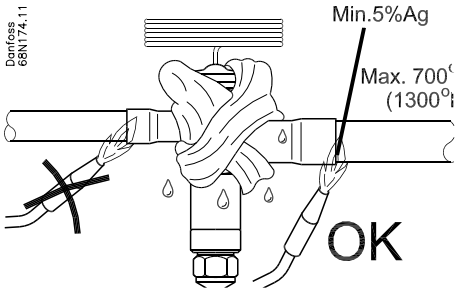
$Q_{nom.}$ A → B [kW] = 100%
$Q_{nom.}$ B → A [kW] = 80%

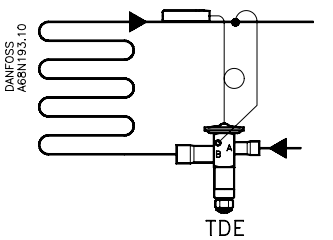


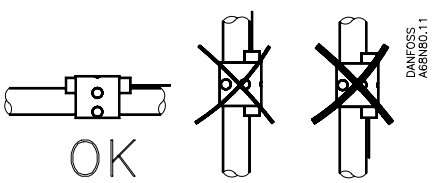
Balanced port design (TDEB)
(used for biflow)

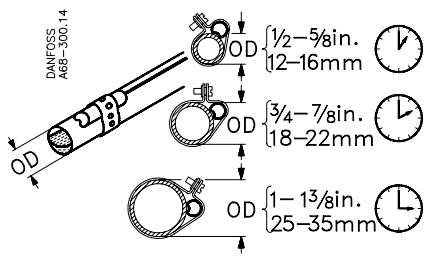
TDE 3 - 7.5 = 3 → 7.5 TR / 10.5 → 26 kW
TDE 8 - 19 = 8 → 19 TR / 28 → 66.5 kW
TDEB 8 - 19 = 8 → 19 TR / 28 → 66.5 kW
TDEB 20 - 40 = 20 → 40 TR / 70 → 140 kW

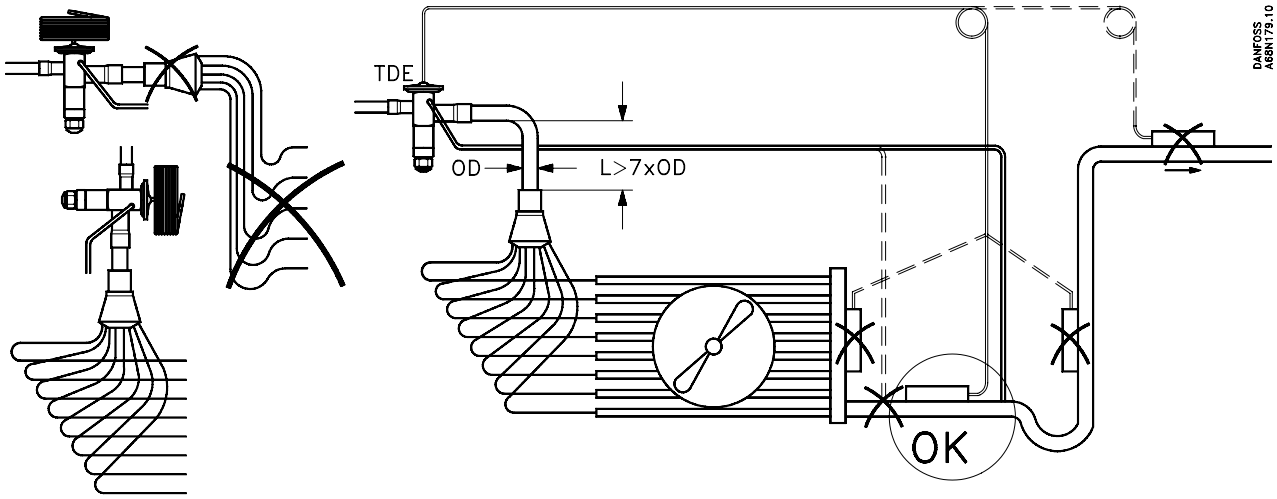


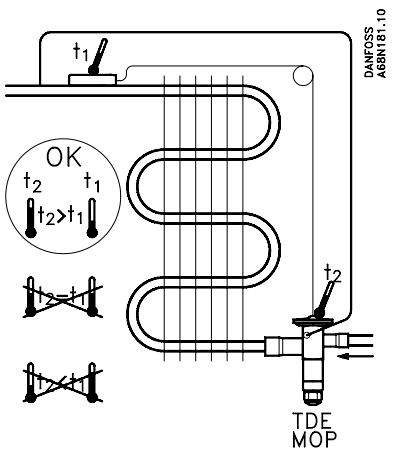


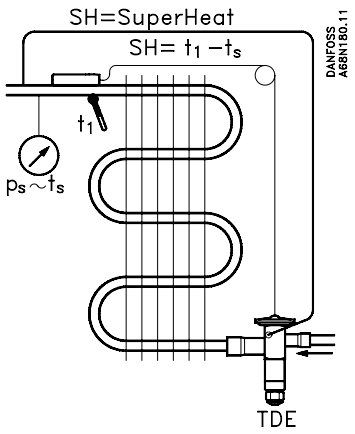




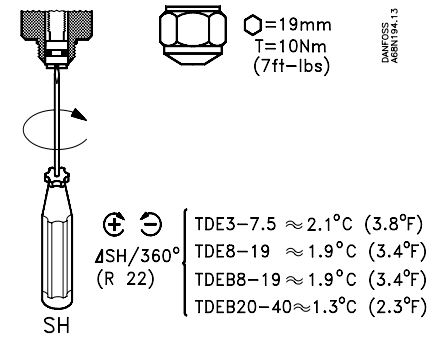




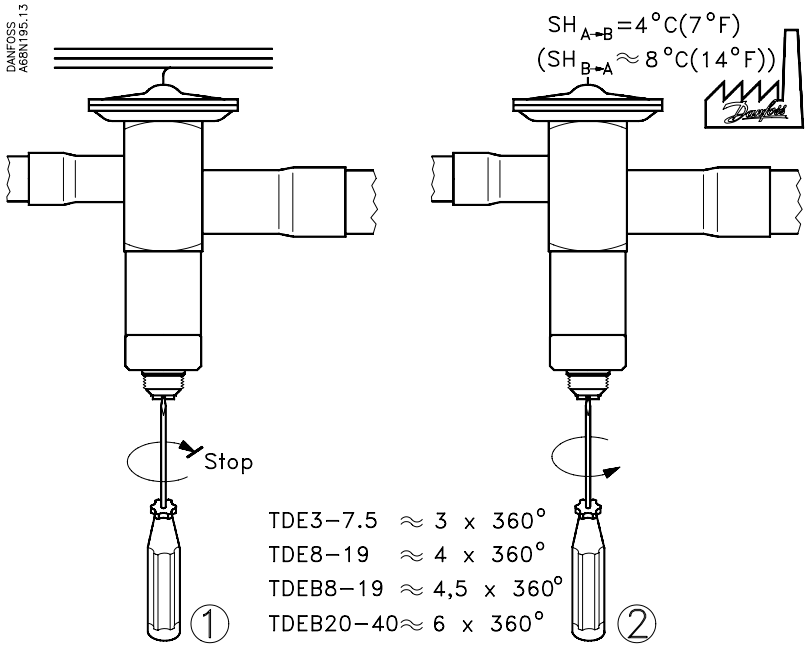




Superheat adjustment

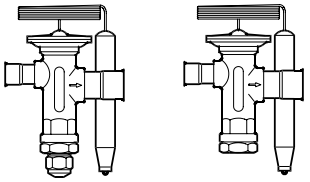


Returning superheat to factory setting



Instructions

TRE



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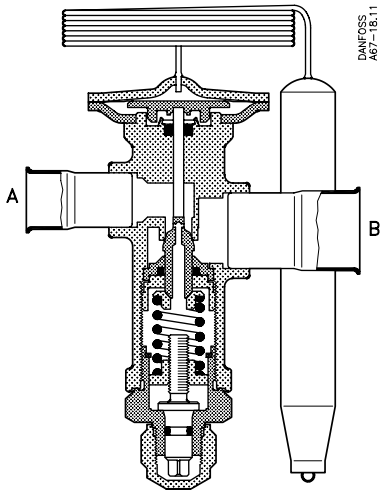


Adjustable setting

PS= 42 bar (MWP = 600 psig)
p_{test} = max. 46.5 bar (670 psig)

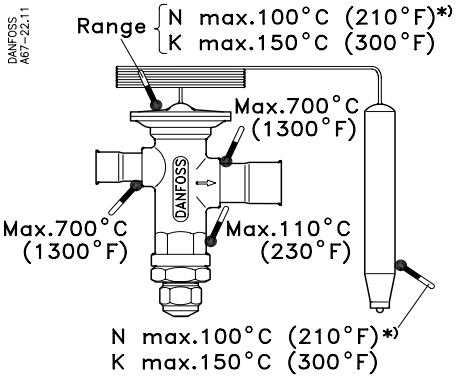
Flow direction:

Normal: A→B

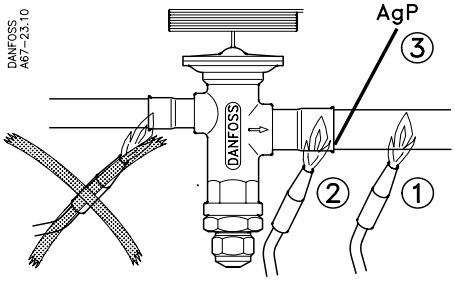
Reverse: B→A

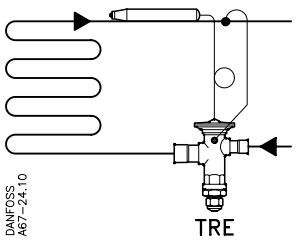
$Q_{nom.}$ A → B [kW] = 100%
$Q_{nom.}$ B → A [kW] = 80%

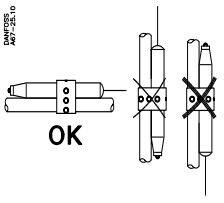
R22
TRE 10: 28 → 35 kW (8 → 10 TR)
TRE 20: 35 → 70 kW (10 → 20 TR)

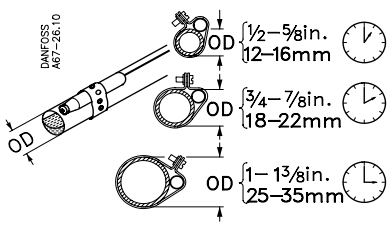


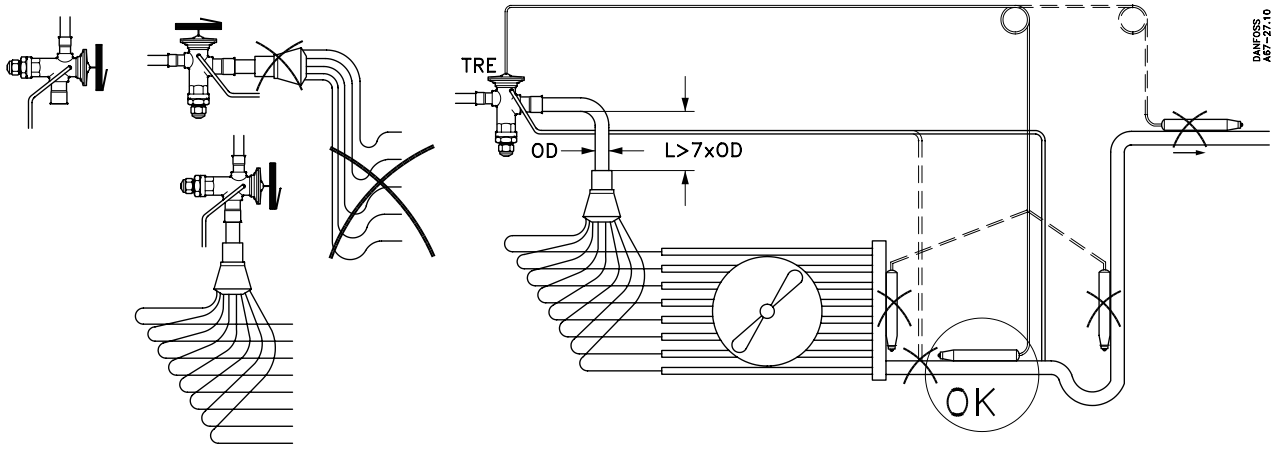
*) R410A max. 70°C (155°F)

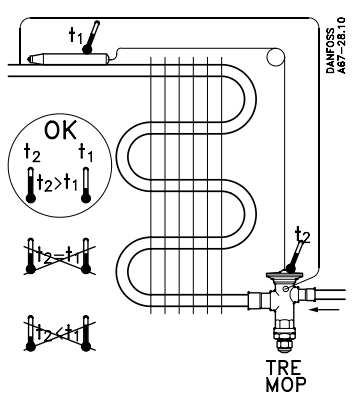


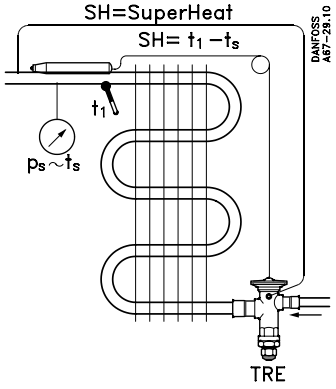


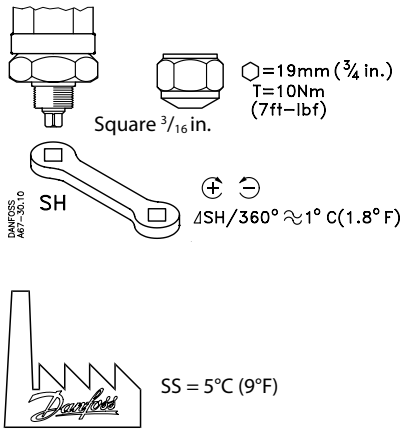


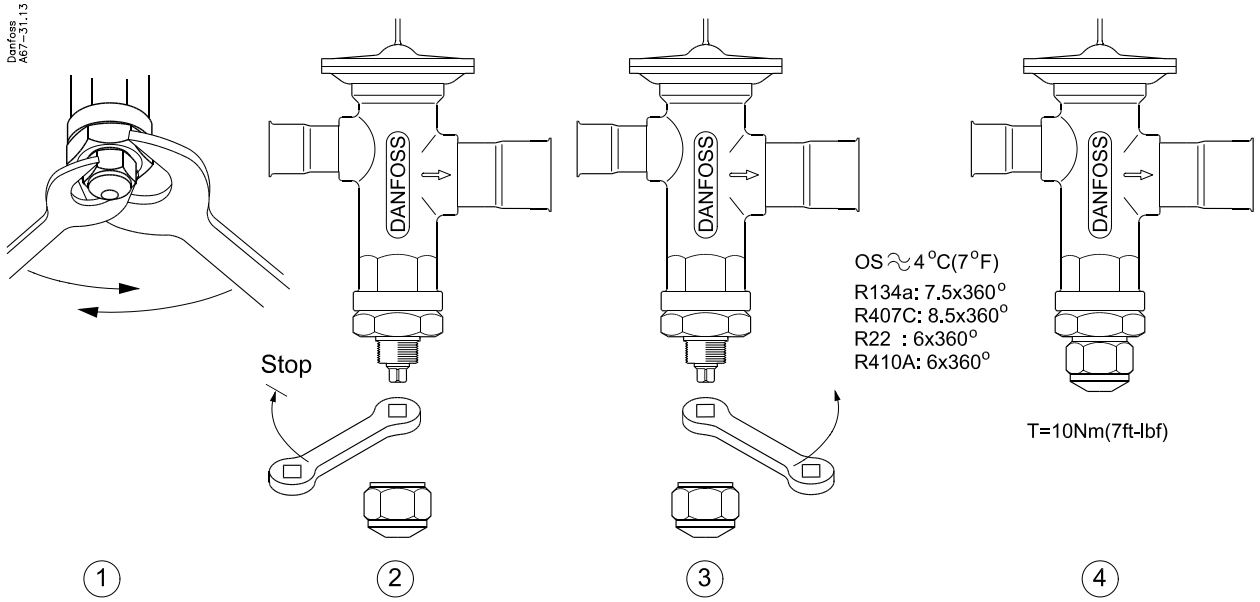



TRE
OD
L>7xOD
OK
DANFOSS A67-27.10


t1
OK
t2
t1
t2>t1
t2=t1
t2<t1
t2
TRE
MOP
DANFOSS A67-28.10

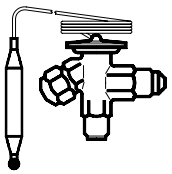

SH=SuperHeat
SH= t1 –ts
t1
ps~ts
TRE
DANFOSS A67-29.10


⬡=19mm (¾ in.)
T=10Nm
(7ft–lbf)
Square 3/16 in.
SH
⊕ ⊖
ΔSH/360° ≈1° C(1.8° F)
DANFOSS A67-30.10
SS = 5°C (9°F)


Danfoss A67-31.13
DANFOSS
DANFOSS
DANFOSS
Stop
OS ≈4°C(7°F)
R134a: 7.5x360°
R407C: 8.5x360°
R22 : 6x360°
R410A: 6x360°
T=10Nm(7ft-lbf)
1
2
3
4

INSTRUCTIONS

TXI 2



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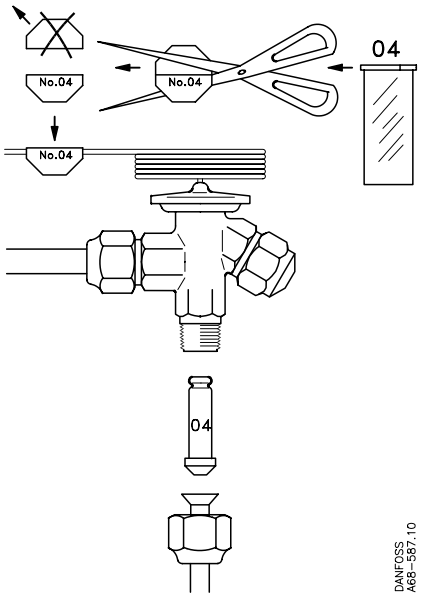
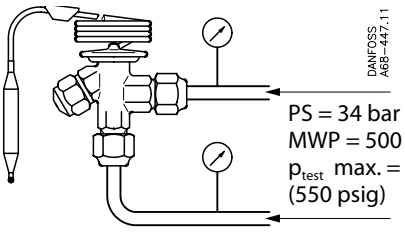
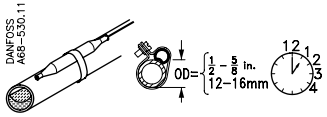
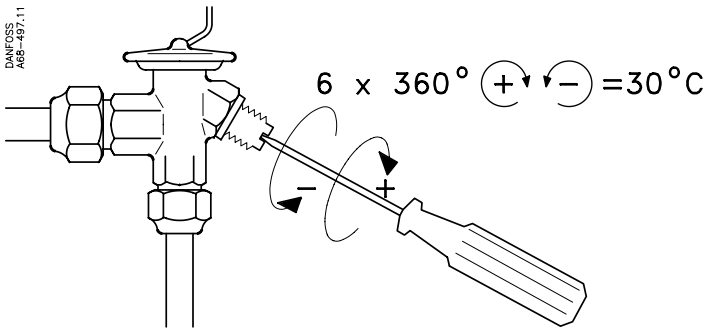
R 22





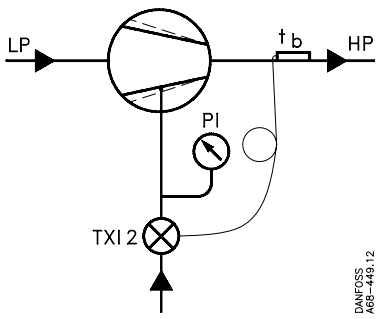
RI1AM402

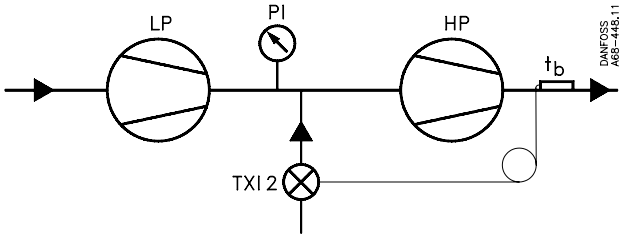




Range		Factory setting		Setting range
t_b:	80 → 110 °C	t_b:	95°C	6 rev. = 30 °C
PI:	1 → 5 bar	PI:	3 bar	
t_b:	100 → 130°C	t_b:	115°C	6 rev. = 30 °C
PI:	1 → 5 bar	PI:	3 bar	
t_b:	100 → 130°C	t_b:	115°C	6 rev. = 30 °C
PI:	0 → 2.5 bar	PI:	1 bar	

t_b = bulb temperature. PI = intermediate pressure

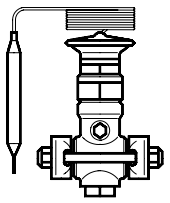




RI1AM402

Instructions

TEAT



068R9582

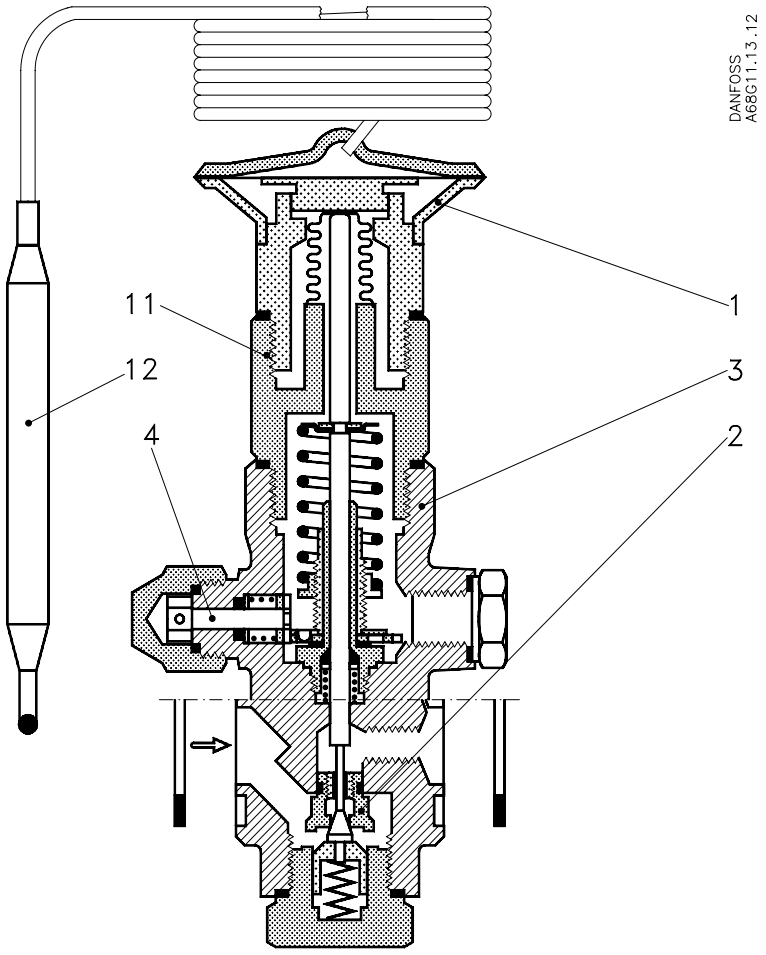


Fig. 1

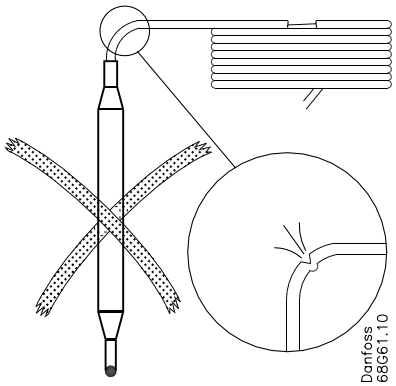


Fig. 2

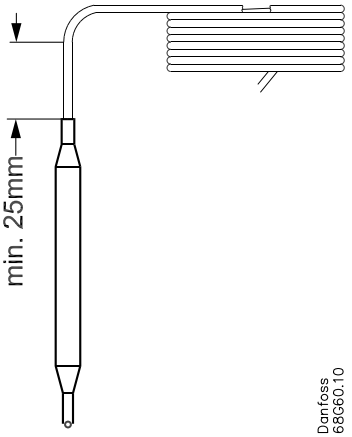


Fig. 3

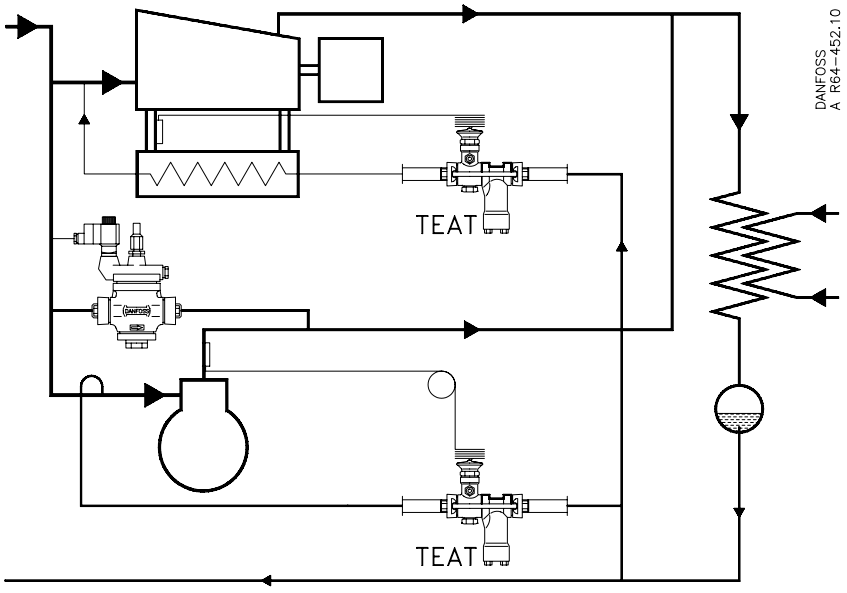


Fig. 4

 ~~RI1FB252~~ → DKRCI.PI.AU0.A1.52 / 520H0632

DANSK

Termostatisk indsprøjtningsventil

Tekniske data
Kølemidler:
CHC, HFC, HCFC, R 717 (NH_3)

Max. følertemperatur:
150°C

P-bånd:
20°C

Maks. prøvetryk: p' = 30 bar (Pe)
Maks. driftstryk: PB = 20 bar (Pe)

Kapillarrørslængde:
5 m

Montering
TEAT monteres med gennemstrømning i pilens retning (fig. 1).

Ventilens tilgangsside tilsluttes væskeledningen. Væsken skal være underkølet og væskeledningen så kort som mulig.

Ventilens afgangsside tilsluttes sugesiden.

Føleren kan monteres i vilkårlig stilling. Da føleren har adsorptionsfyldning, kan den placeres koldere eller varmere end den øvrige del af ventilen.

Føleren kan fastspændes med de medfølgende spændebånd. Det er vigtigt, at føleren får ren metallisk forbindelse med rørledningen. Hvis føleren ønskes placeret i et dykrør, bør der bruges varmeledende pasta.

Bemærk!
Kapillarrøret må ikke bøjes tættere på føleren end 25 mm / 1 in. Se figur 2 og 3. Sker dette, kan kapillarrøret knække og derved mistes fyldningen. Uden fyldning fungerer ventilen ikke.

Indstilling
TEAT med området +35°C til +65°C er fabriksindstillet til at åbne ved en følertemperatur på +45°C, med området +55°C til +95°C ved +75°C og med området +90°C til +130°C ved +110°C.

Drejning af reguleringsspindelen (fig. 1, pos. 4) venstre om (mod uret) giver større afkøling af tryk-røret- og omvendt. En omdrejning af regule-ringsspindelen (fig. 1, pos. 4) giver en temperatur-ændring på ca. 2°C.

Reservedele
Se reservedelskatalog.

ENGLISH

Thermostatic injection valve

Technical data
Refrigerants:
CHC, HFC, HCFC, R 717 (NH_3)

Max. sensor temperature:
150°C

P band:
20°C

Max. test pressure: p' = 30 bar (Pe)
Max. working pressure: PB = 20 bar (Pe)

Capillary tube length:
5 m

Fitting
Type TEAT is fitted with flow in the direction of the arrow (fig. 1).
The inlet side of the valve is connected to the liquid line.
The liquid must be sub-cooled and the liquid line must be as short as possible.
The outlet side of the valve is connected to the suction side.

The bulb can be fitted in any position. Since the bulb has an adsorption charge it may be placed in a colder or warmer position than the rest of the valve.

The bulb can be fastened with the clamps supplied. It is important that the bulb is in good metallic contact with the pipeline. If the bulb is to be placed in a pocket, a heat-conductive compound should be used.

Note !
The capillary tube must not be bent closer than 25 mm /1 in. from the sensor shown in fig. 2 and 3. Otherwise the capillary tube will crack and the filling will get lost. As consequence the valve will not function.

Setting
TEAT with range +35°C to +65°C is factory set to open at a bulb temperature of +45°C, with the range +55°C to +95°C at +75°C and with the range +90°C to +130°C at +110°C.

Turning the regulating spindle (fig. 1, pos. 4) anticlockwise gives greater cooling of the discharge line and vice-versa. One turn of the regulating spindle (fig. 1, pos. 4) gives a temperature charge of approx. 2°C.

Spare parts
See Spare Parts catalogue.

DEUTSCH

Thermostatisches Nachspritzventil

Technische Daten

Kältemittel:
CHC, HFC, HCFC, R 717 (NH_3)

Max. Fühlertemperatur:
150°C

P-Band:
20°C

Max. Prüfdruck: p' = 30 bar (Pe)
Max. Betriebsdruck: PB = 20 bar (Pe)

Kapillarrohrlänge:
5 m

Montage
TEAT ist mit dem Durchfluß in Pfeilrichtung zu montieren (Abb. 1).

Der Ventileintritt wird an die Flüssigkeitsleitung angeschlossen. Die Flüssigkeit muß unterkühlt sein und die Flüssigkeitsleitung möglichst kurz gehalten werden.

Der Ventilaustritt wird an die Saugseite angeschlossen.

Der Fühler kann in beliebiger Lage, und da er mit Adsorptionsfüllung versehen ist, kälter oder wärmer als der übrige Teil des Ventils angeordnet werden.

Der Fühler lässt sich mit Hilfe der mitgelieferten Spannbänder festspannen. Es ist wichtig, dass zwischen dem Fühler und der Rohrleitung ein enger metallischer Kontakt besteht.

Wünscht man, den Fühler in einem Tauchrohr anzubringen, so ist im Tauchrohr eine Wärmeleitpaste vorzusehen.

Bitte beachten !
Das Kapillarrohr darf nicht dichter als 25 mm/ 1 in. vom Ventilkopf montiert werden (siehe fig. 2 and 3). Dadurch kann das Kapillarrohr brechen und die Füllung entweichen und somit wird das Ventil Funktionsunfähig.

Einstellung
TEAT ist vom Werk aus zum Öffnen bei den folgenden Fühlertemperaturen eingestellt:
TEAT mit dem Bereich +35°C bis +65°C: 45°C
TEAT mit dem Bereich +55°C bis +95°C: 75°C
TEAT mit dem Bereich +90°C bis +130°C: 110°C
Dreht man die Regelspindel nach links (im entgegengesetzten Uhrzeigersinn) ergibt sich eine grössere Abkohlung des Druckrohres - und umgekehrt. Eine volle Umdrehung der Regel-spindel (Abb. 1, Pos. 4) ergibt eine Temperaturänderung um ca. 2°C.

Ersatzteile
Siehe Ersatzteilkatalog.

FRANÇAIS

Détendeur thermostatique d'injection

Caractéristiques techniques

Fluides frigorigènes:
CHC, HFC, HCFC, R 717 (NH3)

Température max. du bulbe:
150°C

Bande P:
20°C

Pression d'essai max. : p' = 30 bar (Pe)
Pression de service max. : PB = 20 bar (Pe)

Longueur du tube capillaire: 5 m

Montage
Monter le TEAT avec passage du fluide dans le sens de la flèche (fig. 1).

Le côté entrée du détendeur est raccordé à la conduite de liquide.

Le liquide doit être sous-refroidi, et la conduite de liquide doit être aussi courte que possible.

Le côté sortie du détendeur est raccordé au côté aspiration.

Le bulbe peut être monté dans n'importe quelle position. Le bulbe ayant une charge d'adsorption, il peut être placé dans une ambiance plus chaude ou plus froide que le reste du détendeur.

Le bulbe peut être fixé à l'aide des colliers de serrage inclus dans la fourniture. Il est important d'assurer au bulbe un contact purement métallique avec la conduite.
Si l'on désire placer le bulbe dans un tube plongeur, il faut utiliser une pâte compound conductrice de chaleur.

Le Tube capillaire ne doit pas être courbé à moins de 25 mm du bulbe, voir les figures 2 at 3. Autrement le tube capillaire se fissurera et perdra sa charge. De ce fait, le détendeur ne fonctionnera plus.

Réglage
Il existe 3 types de TEAT avec 3 gammes de température et 3 températures d'ouverture réglées en usine suivant le tableau ci-dessous:

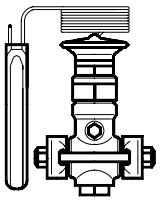
	Gamme	Température prise au niveau du bulbe, réglée en usine, donnant le signal d'ouverture
1	+35°C à +65°C	+45°C
2	+55°C à +95°C	+75°C
3	+90°C à +130°C	+110°C

Lorsque la tige de réglage (fig. 1, rep. 4) est tournée vers la gauche (sens inverse des aiguilles d'une montre), le refroidissement de la conduite de refoulement est augmenté – et inversement. Un tour de la tige de réglage (fig. 1, rep. 4) modifie la température d'env. 2°C.

Pièces de rechange
Voir dans le catalogue de pièces détachées.

Instructions

TEA 20, 85



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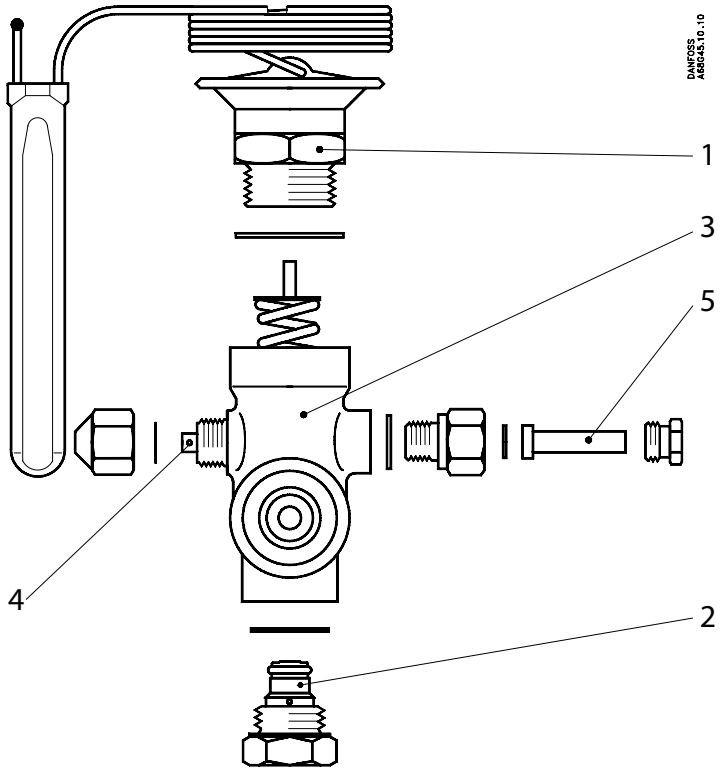

Fig. 1 / Abb. 1

1. Termodel / Power element / Thermoteil / Train thermostatique / Elemento de accionamiento / Elemento di potenza
2. Dyseindsats / Orifice assembly / Düseneinsatz / Cartouche d'orifice / Conjunto de orificio / Insieme orificio
3. Ventilhus / Valve body / Ventilgehäuse / Corps de vanne / Cuerpo de la válvula / Corpo valvola
4. Reguleringsspindel / Regulating spindle / Einstellspindel / Tige de réglage / Aguja de regulación / Asta di regolazione
5. Udligningsstuds / Pressure equalizing connection / Ausgleichstutzen / Tubulure d'égalisation / Conexión de igulación de presión / Collegamento per equalizzazione esterna

	TR [tons]	kcal/h	Nr./No./N°
TEA 20	1	3.000	**068G2050**
	2	6.000	**068G2051**
	3	9.000	**068G2052**
	5	15.000	**068G2053**
	8	24.000	**068G2054**
	12	36.000	**068G2055**
	20	60.000	**068G2056**
TEA 85	33	99.000	**068G2057**
	55	165.000	**068G2058**
	85	255.000	**068G2059**

Tabel / Table / Tabelle / Tableau / Tabla / Tabella 1

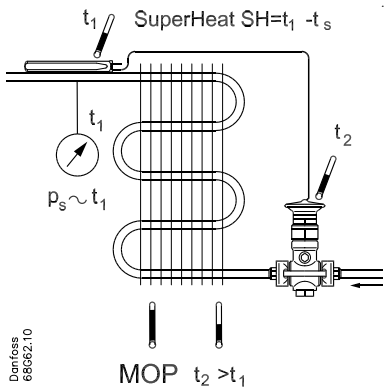

Fig. 2 / Abb. 2

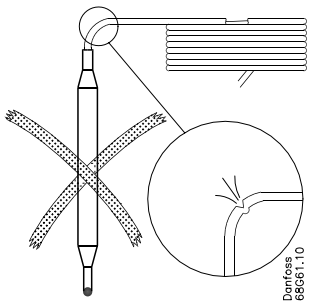

Fig. 3 / Abb. 3

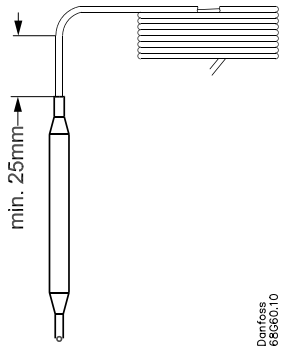

Fig. 4 / Abb. 4

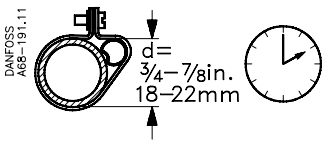

Fig. 5 / Abb. 5

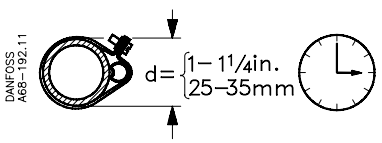

Fig. 6 / Abb. 6

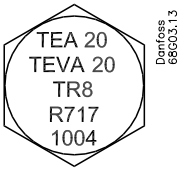

Fig. 7 / Abb. 7

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DANSK

Tekniske data

Maks. følertemperatur:
100°C

Maks. prøvetryk: p' :
28 bar (P_e)

Maks. driftstryk:
PS/MWP = 19 bar (P_e)

Kølemiddel:
R717 (NH^3)

Kapillarrørslængde:
5 m

Montering

Ventilen kan monteres i enhver position, men ventilhuset skal altid være varmere end føleren (fig. 2).

Bemærk!
Kapillarrøret må ikke bøjes tættere på føleren end 25 mm / 1 in. Se figur 3 og 4. Sker dette, kan kapillarrøret knække og derved mistes fyldningen. Uden fyldning fungerer ventilen ikke.

Kun TEA 20-1 er forsynet med separat efterdyse (best.nr. 006-0466). TEA 20-2 har samme dyseindsats som TEA 20-1, men er uden separat efterdyse.

Ventilen kan kun virke med den udvendige trykudligning tilsluttet. Udligningsledningen tilsluttes foroven på sugeledningen efter føleren.

Tilslutningen sker med $^1/_4$ in eller 6 mm stålrør, som påsvejses nippelen på ventilens udligningstilslutning. Endvidere kan udligningsrøret tilsluttes ventilen ved hjælp af. en 8 mm Ermeto forskruning.

Føleren må ikke anbringes i eller efter væskelommer, nær rørsamlinger, massive jerndele, samt hvor den kan udsættes for falske temperaturpåvirkninger, som f.eks. i luftstrømmen fra en ventilator eller en åben dør.

Føleren monteres bedst på en vandret sugeledning, fastspændt med følerklemmen som vist på fig. 5, såfremt udv. rørdiameter er $^7/_8$ in eller mindre. Ved udv. rørdiam. over $^7/_8$ in placeres føleren på rørets side som vist på fig. 6.

Ønskes ventilens kapacitet ændret, kan indsatser med forskellige nominelle kapaciteter leveres efter tabellens (tabel 1) bestillingsnumre. Indsatserne er mærket som eks. i fig. 7.

Tilspændingsmoment

for element ca. 9 kpm
for dyseindsats ca. 5 kpm

Indstilling

Fabriksindstilling: 5°C overhedning ved 0°C følertemperatur.

Denne kan ændres ved at dreje spindelen (se fig. 1 pos. 4). Drejes højre om (med uret), forøges overhedningen og omvendt. En omdrejning forskyder overhedningen ca. 0.5°C.

Fabriksindstillingen genfindes ved fra helt slap fjeder at dreje spindelen ca. 10 omgange.

ENGLISH

Technical data

Maximum bulb temperature:
+212°F (+100°C)

Maximum test pressure:
p' = 398 psig (28 bar) (P_e)

Max. working pressure:
PS/MWP = 270 psig (19 bar) (P_e)

Refrigerant:
R717 (NH^3)

Capillary tube length:
16.5 ft (5 m)

Fitting

The valve can be fitted in any position, but the valve body must always be warmer than the bulb (fig. 2).

Note !
The capillary tube must not be bent closer than 25 mm /1 in. from the sensor shown in fig. 3 and 4. Otherwise the capillary tube will crack and the filling will get lost. As consequence the valve will not function.

TEA 20-1 only is equipped with a separate discharge orifice (code No. 006-0466); TEA 20-2 has the same orifice assembly but is without a separate discharge orifice.

The valve can only operate if the external pressure equalising line is connected. The equalising line should be connected to the upper side of the suction line after the bulb.

Connection is through a $^1/_4$ in or 6 mm steel tube which is welded to the nipple on the valve pressure equalising connection. The equalising line can also be connected to the valve by an 8 mm Ermeto screwed connection.

The bulb must not be fitted in or after liquid pockets, near pipe joints or solid iron parts, nor should it be fitted in places where it may be exposed to fluctuating temperature effects such as in the air flow from a fan or an open door.

The best place to fit the bulb is on a horizontal suction line, using a clip as shown in Fig, 5 if the outside pipe diameter is $^7/_8$ in or less. If the outside pipe diameter is more than $^7/_8$ in, the bulb should be fitted on the pipe side as shown in Fig. 6.

If it should become necessary for the valve capacity to be altered, orifice assemblies with different rated capacities can be obtained by quoting the code Nos. specified in table 1. Orifice assemblies are marked as shown in Fig, 7.

Torque

for power element approx. 9 kpm
for orifice assembly approx. 5 kpm

Adjustment

Factory setting: 9°F (5°C) superheat at a bulb temperature of +32°F (0°C).

This setting can be altered by rotating the spindle (see Fig. 1, pos. 4) – clockwise rotation increases the superheat, and vice versa. One revolution in the appropriate direction increases or decreases the superheat by about 1°F (0.5°C).

It is possible to return to the factory setting by clockwise rotation through about 10 revolutions, starting from the completely slack spring condition.

DEUTSCH

Technische Daten

Max. Fühlertemperatur:
100°C

Max. Prüfdruck: p' :
28 bar (P_e)

Max. Betriebsdruck:
PS/MWP = 19 bar (P_e)

Kältemittel:
R 717 (NH^3)

Kapillarrohrlänge:
5 m

Montage

Das Ventil kann in beliebiger Lage montiert werden, der Ventilkopf (Thermoelement) muss immer wärmer als der Fühler Sein (Abb. 2).

Bitte beachten !
Das Kapillarrohr darf nicht näher als 25 mm/ 1 in. vom Ventilkopf montiert werden (siehe fig. 2 and 3). Dadurch kann das Kapillarrohr brechen und die Füllung entweichen und somit wird das Ventil Funktionsunfähig.

Nur TEA 20-1 ist mit separater Nachspritzdüse (Artikel-Nr. 006-0466) versehen. TEA 20-2 hat den gleichen Düseneinsatz wie TEA 20-1, besitzt aber keine separate Nachspritzdüse.

Das Ventil kann nur bei angeschlossenem ausserem Druckausgleich funktionieren. Die Ausgleichsleitung ist oben an die Saugleitung hinter dem Fühler anzuschließen.

Der Anschluß erfolgt mittels eines Stahlrohrs von $^1/_4$" oder 6 mm, das an den Nippel in der Ausgleichbohrung des Ventils anzuschweißen ist. Ferner kann das Ausgleichrohr mit Hilfe einer Ermeto-Verschraubung von 8 mm an das Ventil angeschlossen werden.

Der Fühler darf nicht in oder hinter Flüssigkeitssäcken, in der Nähe von Rohrverbin-dungen oder massiven Stahlteilen sowie an Stellen angebracht werden, an denen es falschen Temperatureinwirkungen ausgesetzt werden kann, z.B. im Luftstrom eines Ventilators oder im Zug von einer offenstehenden Tür.

Die Montage des Fühlers erfolgt am besten an einer waagerechten Saugleitung, an der er mit der in Abb. 5 gezeigten Fühlerklemme befestigt werden kann, sofern der Außendurchmesser $^7/_8$" oder weniger beträgt. Bei einem Aussendurchmeßer des Rohrs über $^7/_8$" ist der Fühler seitlich am Rohr anzubringen, wie in Abb. 6 dargestellt.

Soll die Leistung des Ventils geändert werden, sind Einsätze mit verschiedenen Nennleistungen nach den Artikelnummern der Tabelle 1 lieferbar. Die Einsätze sind wie im Beispiel, Abb. 7, gekenn-zeichnet.

Anzugsmoment

Für das Element ca. 9 kpm
Für den Düseneinsatz ca. 5 kpm

Einstellung

Werkseinstellung: 5°C Überhitzung bei 0°C Fühlertemperatur.

Die Werkseinstellung kann durch Verdrehen der Spindel geändert werden (siehe Pos. 4 der Abb. 1). Ein Verdrehen rechts herum (im Uhrzeigersinn) erhöht die Überhitzung, und umgekehrt. Eine Umdrehung verschiebt die Überhitzung um etwa 0.5°C.

Die Werkseinstellung kann wieder erreicht werden, wenn man bei ganz entspannter Feder die Spindel etwa 10 Umdrehungen rechts herum dreht.