



ASSEMBLY INSTRUCTION

# Fire Protection Collars

**FLAMRO Variant N II A**

Authorisation No.: ETA - 13/0922

**FLAMRO Variant N II KS**

Authorisation No.: ETA - 13/0792

FIRE PROTECTION SYSTEMS  
**For Your Safety**

## Assembly Instruction

### Fire Protection Collars

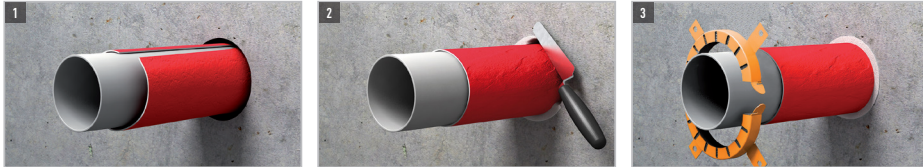
Please respect the permit specifications. All documents may be downloaded from [www.flamro.com/services/downloads](http://www.flamro.com/services/downloads).

It is assumed that

- Any damage to the seal will be repaired
- The structural stability of the adjacent component is not compromised (including in the event of a fire) due to the installation of the seal
- The ledge or the ceiling for the seal does not contain any additional vertical loading
- The line fixings are attached to the adjacent component (and not on the seal)

#### Assembly steps

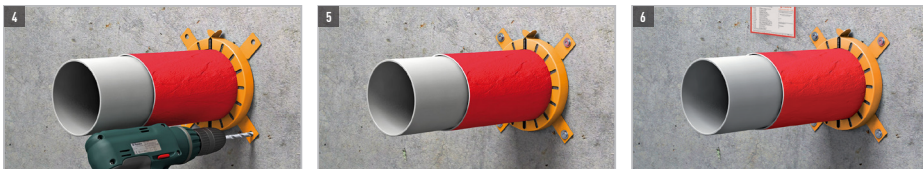
The Fire Protection Collar must be installed on both sides of the wall and on the underside of ceilings. The smallest possible fitting collar for the pipe diameter is always selected.



The Fire Protection Collar FLAMRO Variant N II A may be wrapped around insulated or uninsulated pipes.

The remaining openings in the wall or ceiling must be filled in with mortar or plaster so that there are no cavities.

The appropriate fire protection collar must be selected. The internal diameter of the collar used must be no more than 30 mm than the diameter of the individual tube.



All of the available fixing points must be used.

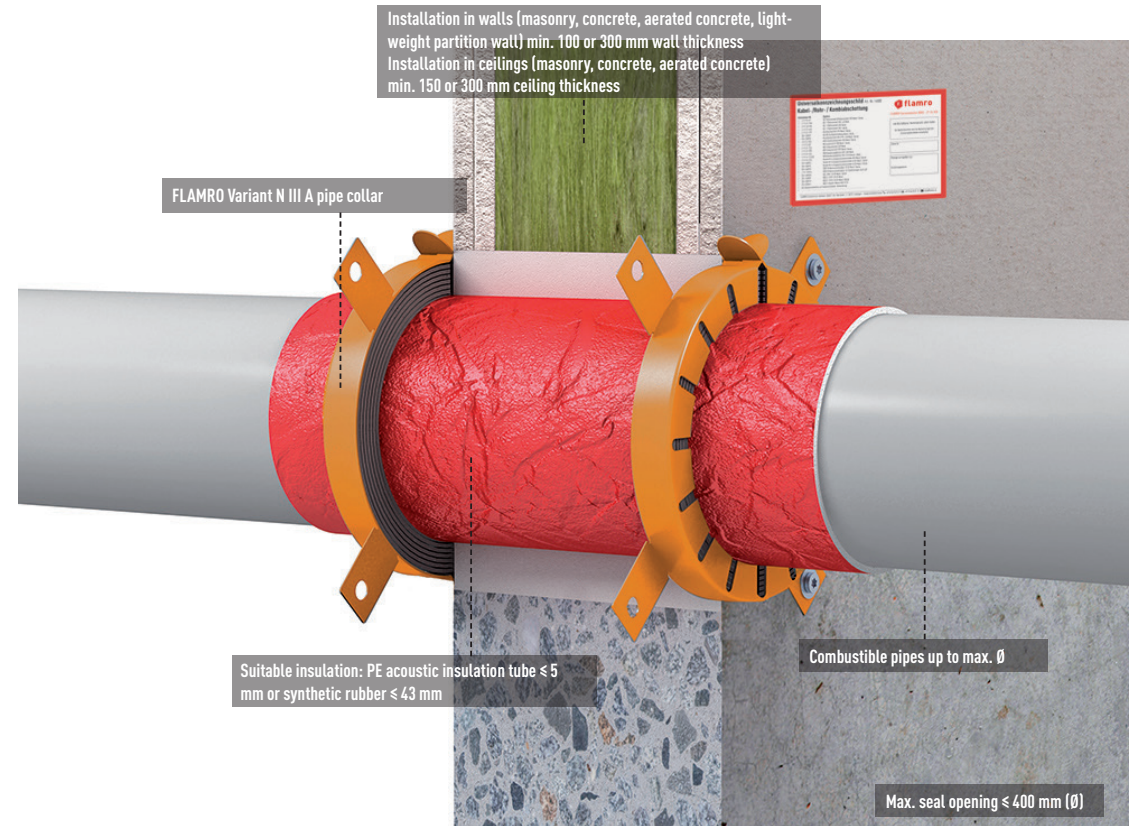
The collar must be fixed to the wall or ceiling using approved dowels or to lightweight partition walls using threaded rods.

The seal must then be permanently labelled with a sign. The identification plate must be attached to the component next to the seal and may be obtained from FLAMRO.

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#### Extract from technical data (precise details see ETA)

Max. Ø (mm)	32	40	50	63	75	90	110	125	140	160	180	200	225	250	280	300	315	355	400
Inner Ø (mm)	36	44	54	67	79	94	114	129	144	164	184	204	239	264	289	314	328	370	415
Outer Ø (mm)	50	58	68	94	106	132	155	172	200	220	264	284	328	353	378	403	417	459	504
Installation	26	26	26	26	26	26.6	26.6	40	40	40	40	40	51.5	51.5	51.5	51.5	51.5	51.5	51.5
Lugs (items.)	2	2	2	4	4	4	4	4	6	6	8	8	10	10	12	12	12	12	12

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Combustible pipes	Max. Ø (mm)	Fire resistance duration	Wall thickness (mm)
PVC-U	32	EI 120 (U/U)	1.8 - 5.6
PVC-U	50	EI 120 (U/U)	1.8 - 5.6
PVC-U	110	EI 120 (U/U)	2.2
PVC-U	32	EI 120 (U/C)	1.8 - 5.6
PVC-U	50	EI 120 (U/C)	1.8 - 5.6
PVC-U	110	EI 120 (U/C)	2.2 - 12.3
PVC-U	160	EI 120 (U/C)	3.2 - 11.8
PVC-U	32	EI 240 (U/C)	1.8 - 5.6
PVC-U	50	EI 240 (U/C)	1.8 - 5.6
PVC-U	110	EI 240 (U/C)	2.2 - 12.3
PVC-U	160	EI 240 (U/C)	3.2 - 11.8
PVC-U	200	EI 240 (U/C)	4.0 - 9.6
PVC-U	180	EI 240 (U/C)	4.0 - 9.6
PVC-U	200	EI 240 (U/C)	4.0 - 9.6
PVC-U	32	EI 120 (U/C)	1.8 - 5.6
PVC-U	50	EI 120 (U/C)	1.8 - 5.6
PVC-U	110	EI 120 (U/C)	2.2 - 12.3
PVC-U	160	EI 120 (U/C)	3.2 - 11.8
PVC-U	200	EI 120 (U/C)	4.0 - 9.6
PVC-U	220	EI 120 (U/C)	11.7
PVC-U	400	EI 120 (U/C)	5.0 - 11.7
PE-HD	32	EI 120 (U/C)	1.8 - 4.6
PE-HD	50	EI 120 (U/C)	1.8 - 4.6
PE-HD	110	EI 120 (U/C)	2.7 - 10.0
PE-HD	125	EI 120 (U/C)	14.6
PE-HD	160	EI 120 (U/C)	4.0 - 14.6
PE-HD	32	EI 120 (U/C)	1.8 - 4.6
PE-HD	50	EI 120 (U/C)	1.8 - 4.6
PE-HD	110	EI 120 (U/C)	2.7 - 10.0
PE-HD	125	EI 120 (U/C)	14.6
PE-HD	160	EI 120 (U/C)	4.0 - 14.6
PE-HD	200	EI 120 (U/C)	4.9 - 11.4
PE-HD	32	EI 120 (U/C)	1.8 - 4.6
PE-HD	50	EI 120 (U/C)	1.8 - 4.6
PE-HD	110	EI 120 (U/C)	2.7 - 10.0
PE-HD	125	EI 120 (U/C)	14.6

Use on wall in accordance with  
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PE-HD	160	EI 120 (U/C)	4.0 - 14.6
PE-HD	200	EI 120 (U/C)	4.9 - 11.4
PE-HD	220	EI 120 (U/C)	22.7
PE-HD	400	EI 120 (U/C)	9.8 - 22.7
PP	32	EI 120 (U/C)	2.9 - 4.6
PP	50	EI 120 (U/C)	2.9 - 4.6
PP	110	EI 120 (U/C)	2.7 - 10.0
PP	125	EI 120 (U/C)	14.6
PP	160	EI 120 (U/C)	4.0 - 14.6
PP	32	EI 120 (U/C)	2.9 - 4.6
PP	50	EI 120 (U/C)	2.9 - 4.6
PP	110	EI 120 (U/C)	2.7 - 10.0
PP	125	EI 120 (U/C)	14.6
PP	160	EI 120 (U/C)	4.0 - 14.6
PP	200	EI 120 (U/C)	4.9 - 11.4
CoolFit-Rohr	25	EI 120 (U/C)	2.2 - 2.3
CoolFit-Rohr	32	EI 120 (U/C)	1.9 - 2.2
CoolFit-Rohr	40	EI 120 (U/C)	2.4 - 2.7
CoolFit-Rohr	50	EI 120 (U/C)	2.7 - 3.0
CoolFit-Rohr	63	EI 120 (U/C)	3.0 - 3.8
CoolFit-Rohr	75	EI 120 (U/C)	3.0 - 4.6
CoolFit-Rohr	90	EI 120 (U/C)	3.0 - 5.4
CoolFit-Rohr	110	EI 120 (U/C)	3.0 - 6.6
CoolFit-Rohr	140	EI 120 (U/C)	3.2 - 9.2
CoolFit-Rohr	160	EI 120 (U/C)	3.9 - 10.5
CoolFit-Rohr	200	EI 90 (U/C)	4.4 - 13.1
CoolFit-Rohr	225	EI 90 (U/C)	4.9 - 14.8

Intermediate pipe dimensions are also covered. See diagram  
for more detail information (Image 1 to 16) ETA-13/0922

#### Specifications (wall)

Min. wall thickness	≥ 100 mm (lightweight partition wall) or ≥ 100 mm or ≥ 300 mm (masonry, concrete or aerated concrete)
Walls consisting of	masonry, concrete or aerated concrete or lightweight partition wall with steel and wooden stands
Max. seal dimensions	≤ 400 mm (Ø)
Collars	Collar installation on both sides of wall, dim. in accordance with certificate
1. Support	≤ 470 mm

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Combustible pipe	Max. Ø (mm)	Fire resistance duration	Wall thickness (mm)
PVC-U	32	Ei 120 (U/C)	1.8 - 5.6
PVC-U	50	Ei 120 (U/C)	1.8 - 5.6
PVC-U	110	Ei 120 (U/C)	2.2 - 12.3
PVC-U	160	Ei 120 (U/C)	3.2 - 11.8
PVC-U	200	Ei 120 (U/C)	4.0 - 9.6
PVC-U	32	Ei 120 (U/C)	1.8 - 5.6
PVC-U	50	Ei 120 (U/C)	1.8 - 5.6
PVC-U	110	Ei 120 (U/C)	2.2 - 12.3
PVC-U	160	Ei 120 (U/C)	3.2 - 11.8
PVC-U	200	Ei 120 (U/C)	4.0 - 9.6
PVC-U	220	Ei 120 (U/C)	11.7
PVC-U	400	Ei 120 (U/C)	5.0 - 11.7
PE-HD	32	Ei 120 (U/C)	1.8 - 4.6
PE-HD	50	Ei 120 (U/C)	1.8 - 4.6
PE-HD	110	Ei 120 (U/C)	2.7 - 10.0
PE-HD	125	Ei 120 (U/C)	14.6
PE-HD	160	Ei 120 (U/C)	4.0 - 14.6
PE-HD	180	Ei 120 (U/C)	18.2
PE-HD	200	Ei 120 (U/C)	4.9 - 18.2
PE-HD	32	Ei 120 (U/C)	1.8 - 4.6
PE-HD	50	Ei 120 (U/C)	1.8 - 4.6
PE-HD	110	Ei 120 (U/C)	2.7 - 10.0
PE-HD	125	Ei 120 (U/C)	14.6
PE-HD	160	Ei 120 (U/C)	4.0 - 14.6
PE-HD	200	Ei 120 (U/C)	4.9 - 18.2
PE-HD	220	Ei 120 (U/C)	22.7
PE-HD	400	Ei 120 (U/C)	9.8 - 22.7
PP	32	Ei 120 (U/C)	1.8 - 4.6
PP	50	Ei 120 (U/C)	1.8 - 4.6
PP	110	Ei 120 (U/C)	2.7 - 10.0
PP	125	Ei 120 (U/C)	14.6
PP	160	Ei 120 (U/C)	4.0 - 14.6
PP	200	Ei 120 (U/C)	4.9 - 11.4
PP	32	Ei 120 (U/C)	1.8 - 4.6
PP	50	Ei 120 (U/C)	1.8 - 4.6
PP	110	Ei 120 (U/C)	2.7 - 10.0

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#### Installations (ceiling)

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PP	125	Ei 120 (U/C)	14.6
PP	160	Ei 120 (U/C)	4.0 - 14.6
PP	200	Ei 120 (U/C)	4.9 - 11.4
PP	315	Ei 120 (U/C)	7.7
CoolFit-Rohr	25	Ei 120 (U/C)	2.2 - 2.3
CoolFit-Rohr	32	Ei 120 (U/C)	1.9 - 2.2
CoolFit-Rohr	40	Ei 120 (U/C)	2.4 - 2.7
CoolFit-Rohr	50	Ei 120 (U/C)	2.7 - 3.0
CoolFit-Rohr	63	Ei 120 (U/C)	3.0 - 3.8
CoolFit-Rohr	75	Ei 90 (U/C)	3.0 - 4.6
CoolFit-Rohr	90	Ei 90 (U/C)	3.0 - 5.4
CoolFit-Rohr	110	Ei 90 (U/C)	3.0 - 6.6
CoolFit-Rohr	140	Ei 90 (U/C)	3.2 - 9.2
CoolFit-Rohr	160	Ei 90 (U/C)	3.9 - 10.5
CoolFit-Rohr	200	Ei 90 (U/C)	4.4 - 13.1
CoolFit-Rohr	225	Ei 120 (U/C)	4.9 - 14.8

Intermediate pipe dimensions are also covered. See  
diagram for more detail information (Image 1 to 16)  
ETA-13/0922

#### Specifications (ceiling)

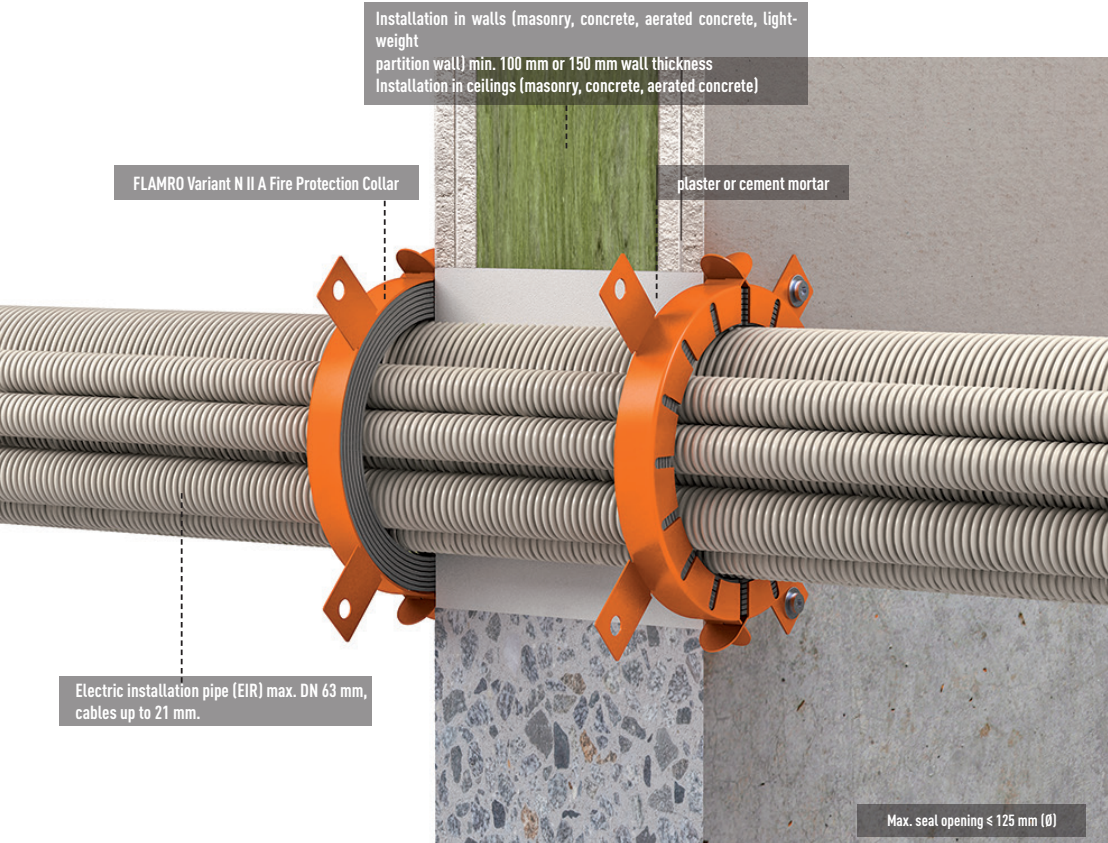
Min. ceiling thickness	≥ 150 mm and ≥ 300 mm
Ceilings consisting of	masonry, concrete or aerated concrete
Max. seal dimensions	≤ 400 mm (Ø)
Collars	Collar installation on underside of ceiling, dim. in accordance with certificate



## Assembly Instruction

### FLAMRO Variant N II KS

Authorisation No.: ETA - 13/0792



#### Extract from technical data (precise details see ETA)

Max. Ø (mm)	32	40	50	63	75	90	110	125
Inner Ø (mm)	36	44	54	67	79	94	114	129
Outer Ø (mm)	50	58	68	94	106	132	155	172
Installations heights	26	26	26	26	26	26,6	26,6	40
Lugs (items.)	2	2	2	4	4	4	4	4

09/2016, Rev. 0

## Assembly Instruction

### FLAMRO Variant N II KS

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Use on wall in accordance with ETA-13/0792

#### Installations (wall)

Combustible pipe	DN	Max. Ø (mm)	Fire resistance	Wall thickness
PVC DN 16	16	10.9	EI 120 (U/C)	0.3 - 0.5
PVC DN 20	20	14.2	EI 120 (U/C)	0.3 - 0.5
PVC DN 25	25	18.6	EI 120 (U/C)	0.3 - 0.6
PVC DN 32	32	24.3	EI 120 (U/C)	0.3 - 0.6
PVC DN 40	40	31.3	EI 120 (U/C)	0.3 - 0.6
PVC DN 50	50	40.0	EI 120 (U/C)	0.3 - 0.5
PVC DN 63	63	50.5	EI 120 (U/C)	0.3 - 0.5
Polyolefin DN 16	16	10.4	EI 120 (U/C)	0.3 - 0.8
Polyolefin DN 20	20	13.6	EI 120 (U/C)	0.3 - 0.8
Polyolefin DN 25	25	17.9	EI 120 (U/C)	0.4 - 0.8
Polyolefin DN 32	32	23.4	EI 120 (U/C)	0.4 - 0.8
Polyolefin DN 40	40	30.0	EI 120 (U/C)	0.5 - 0.8
Polyolefin DN 50	50	38.8	EI 120 (U/C)	0.5 - 0.8
Polyolefin DN 63	63	48.8	EI 120 (U/C)	0.7 - 0.8

#### Specifications (wall)

Min. wall thickness	≥ 100 mm (lightweight partition wall) and ≥ 150 mm (masonry, concrete or aerated concrete)
Walls consisting of	masonry, concrete or aerated concrete or lightweight partition wall with steel and wooden stands
Max. seal dimensions	≤ 125 mm (Ø)
Collars	Collar installation on both sides of wall, dim. in accordance with certificate
1. Support	≤ 450 mm on both sides of wall

09/2016, Rev. 0

## Assembly Instruction

### FLAMRO Variant N II KS

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Use on ceiling in accordance with ETA-13/0792

#### Installations (ceiling)

Combustible pipes	DN	Max. Ø (mm)	Fire resistance duration	Wall thickness (mm)
PVC DN 16	16	10.9	EI 120 (U/C)	0.3 - 0.5
PVC DN 20	20	14.2	EI 120 (U/C)	0.3 - 0.5
PVC DN 25	25	18.6	EI 120 (U/C)	0.3 - 0.6
PVC DN 32	32	24.3	EI 120 (U/C)	0.3 - 0.6
PVC DN 40	40	31.3	EI 120 (U/C)	0.3 - 0.6
PVC DN 50	50	40.0	EI 120 (U/C)	0.3 - 0.5
PVC DN 63	63	50.5	EI 120 (U/C)	0.3 - 0.5
Polyolefin DN 16	16	10.4	EI 120 (U/C)	0.3 - 0.8
Polyolefin DN 20	20	13.6	EI 120 (U/C)	0.3 - 0.8
Polyolefin DN 25	25	17.9	EI 120 (U/C)	0.4 - 0.8
Polyolefin DN 32	32	23.4	EI 120 (U/C)	0.4 - 0.8
Polyolefin DN 40	40	30.0	EI 120 (U/C)	0.5 - 0.8
Polyolefin DN 50	50	38.8	EI 120 (U/C)	0.5 - 0.8
Polyolefin DN 63	63	48.8	EI 120 (U/C)w	0.7 - 0.8

#### Specifications (ceilings)

Min. ceiling thickness	≥ 150 mm
Ceilings consisting of	masonry, concrete or aerated concrete
Max. seat dimensions	≤ 125 mm (Ø)
Collars	Collar installation on underside of ceiling, dim. in accordance with certificate
1. Support	≤ 420 mm from top of ceiling construction