

### Insulation clamps type 170 EX

galvanised

#### Application

- Thermal decoupled pipe attachment in the field of refrigeration
- Specially suitable for attachments in ventilation, air-conditioning, heating, refrigeration installations as well as for hot and chilled water pipes
- Stable insulating element for high impacts

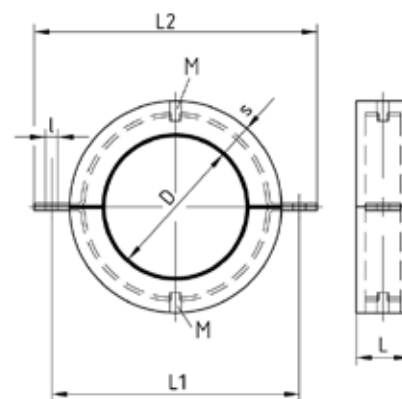
#### Your advantages

- Exterior connection joints (without screws)
- With dual-side metric connection thread
- High vapour diffusion resistance
- With caoutchouc lining on the pipe side and on the separation surfaces of the insulating clamp, no PU-Sealer necessary
- Ideal for separating individual pipe sections when using open diffusion insulating materials (mineral fibre)



#### Features

Material	Polyurethane, black
Fire classification	B2 acc. to DIN 4102 (normally flammable)
Effective density [kg/m³]	250
Thermal conductivity	$\lambda = 0.029 \text{ W/mK}$ at $-180^\circ\text{C}$ , $\lambda = 0.032 \text{ W/mK}$ at $-150^\circ\text{C}$ , $\lambda = 0.038 \text{ W/mK}$ at $-100^\circ\text{C}$ , $\lambda = 0.044 \text{ W/mK}$ at $-50^\circ\text{C}$ , $\lambda = 0.047 \text{ W/mK}$ at $-20^\circ\text{C}$ , $\lambda = 0.049 \text{ W/mK}$ at $0^\circ\text{C}$ , $\lambda = 0.052 \text{ W/mK}$ at $+20^\circ\text{C}$ , $\lambda = 0.054 \text{ W/mK}$ at $+40^\circ\text{C}$
Temperature range	$-50^\circ\text{C}$ to $+105^\circ\text{C}$
Water vapour diffusion resistance	$\mu = 1,430$
Compression strength	8.11 N/mm² at $-180^\circ\text{C}$ , 9.62 N/mm² at $-80^\circ\text{C}$ , 4.91 N/mm² at $0^\circ\text{C}$ , 3.96 N/mm² at $+23^\circ\text{C}$



Pipe outer Ø D [mm]	Connecting thread M	Insulation thickness s [mm]	Shell length L [mm]	Strip perforation for l	Permanent load-bearing capacity [N]	Dimensions [mm]		Part no.	Sales unit	Pack unit
						L1	L2			
114.3	M10	40	60	M12	2,740	238	274	111173	5	Pieces
133	M10	40	60	M12	3,190	264	300	111175		
139.7	M10	40	60	M12	3,350			111177		
159	M12	40	60	M12	3,830	279	319	111179	4	
168.3	M12	40	60	M12	4,040	288	328	111181		
219.1	M16	40	100	M12	5,260	359	399	111183	1	
273	M16	40	100	M16	8,190	413	453	111187		
323.9	M20	40	100	M16	11,600	464	504	111191		
406.4	M24	40	100	M16	19,500	556	606	111199		
219.1	M16	60	100	M12	5,260	399	439	111185		
273	M16	60	100	M16	8,190	453	493	111189		
323.9	M20	60	100	M16	11,600	504	544	111193		
355.6	M20	60	100	M16	12,000	536	576	111195		
368	M20	60	100	M16	13,250	548	588	111197		
406.4	M24	60	100	M16	19,500	596	646	111201		
457.2	M24	60	100	M16	21,900	647	697	111203		
508	M24	60	100	M16	24,300	698	748	111205		
609.6	M24	60	100	M16	29,200	798	848	111207		

⚠ According to the AGI Working Sheet Q 11 ("Arbeitsgemeinschaft Industriebau", an association for industrial construction works) the insulation of refrigeration lines must be made diffusion tight. The connection with the outer pipe insulation is made by using a complying adhesive for the insulation material (use adhesive suitable for PU).