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# spirax /sarco

**3C.510**  
 Ed. 6 IT - 2007



## Compensatori di dilatazione AR

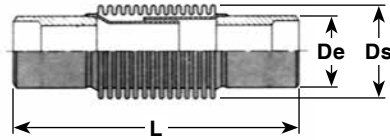
I compensatori di dilatazione assiali della serie AR sono dotati di soffietto a pareti ondulate multiple in acciaio inossidabile (18/8 stabilizzato al titanio). Essi vengono costruiti in quattro versioni adatte rispettivamente per pressioni da 9 a 40 bar. Per ogni diametro sono poi disponibili due o tre diversi movimenti. Esecuzioni speciali, con i terminali a saldare in acciaio inossidabile, con maggiori diametri o adatti per più elevate pressioni oppure con soffietti in altri materiali (titanio, limonix, ecc.) possono essere fornite a richiesta. Tutti i modelli sono disponibili sia con i terminali in acciaio, adatti per essere saldati alla tubazione, che in esecuzione flangiata. Una guida interna impedisce al fluido di entrare in moto turbolento e purchè il compensatore venga montato rispettando la direzione del flusso indicata. Tutti i modelli di questa serie di compensatori sono in grado di sopportare un uguale movimento in trazione e in compressione. Per poter disporre in esercizio del movimento totale, devono essere quindi opportunamente pretesi o precompressi, prima del montaggio. È molto importante determinare in modo corretto la pretensione o la precompressione del compensatore al montaggio per evitare che, in ogni condizione, il compensatore possa superare i limiti indicati. Tutti i modelli sono contraddistinti dalla sigla AR seguita dalle seguenti indicazioni: la pressione massima di esercizio, le connessioni flangiata (eventuali), il diametro nominale e il movimento totale.



Modelli	AR10	AR10F	AR16	AR16F
Misure	DN40÷800	DN40÷350 (no DN175 e 225)	DN40÷800	DN40÷350 (no DN175 e 225)
Condizioni massime di esercizio	10 bar @ 300°C	9 bar @ 300°C	16 bar @ 300°C	9 bar @ 300°C
Temperatura minima ambiente	-20°C			
Pressione massima di prova idraulica a freddo	16 bar	15 bar	25 bar	15 bar
Modelli	AR25	AR25F	AR40	AR40F
Misure	DN40÷800	DN40÷350 (no DN175 e 225)	DN50÷600	DN50÷350 (no DN175 e 225)
Condizioni massime di esercizio	25 bar @ 300°C	25 bar @ 300°C DN40÷150 @ 120°C DN200÷300 20 bar @ 120°C DN350 17 bar @ 300°C DN200÷350	40 bar @ 300°C	40 bar @ 120°C DN50÷150 32 bar @ 120°C DN200÷300 29 bar @ 120°C DN350 28 bar @ 300°C DN50÷300 25 bar @ 300°C DN350
Temperatura minima ambiente	-20°C			
Pressione massima di prova idraulica a freddo	37,5 bar	37,5 bar DN40÷150 35,7 bar DN200÷300 28,5 bar DN350	60 bar	45 bar DN50÷300 40 bar DN350
Fluidi d'impiego	vapor saturo/surriscaldato, acqua calda/surriscaldata, olio diatermico ed altri gas e liquidi non pericolosi, compatibili con i materiali e appartenenti al Gruppo 2 della Direttiva Europea per Apparecchiature in Pressione 97/23/EC			
Materiali	soffietto e guida interna	acciaio inox ASTM A240 - 321 (a richiesta: titanio, limonix, ...)		
	terminali a saldare	acciaio al carbonio EN 10216-2/P235 GH		
Attacchi	flange	acciaio al carbonio ASTM A105		
		a saldare di testa ANSI B16.25 BW		
	flangiati EN 1092-1/01 B1 - PN16/25/40			

# AR10

Condizioni  
massime  
di esercizio:  
10 bar @ 300°C

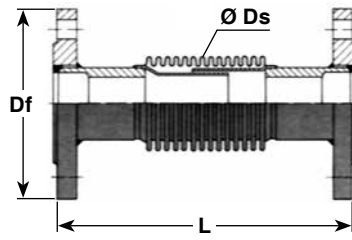


DN	Modello	Movimento		Lunghezza libera L (mm)	Diametro esterno tubazione De (mm)	Diametro esterno soffietto Ds (mm)	Sezione effettiva S (cm <sup>2</sup> )	Carico di deformaz. assiale Kc (kg/mm)	Peso appr. (kg)
		± (mm)	totale (mm)						
40	*AR10/40/38	19,0	38	200	48,3	59	22	8,2	1,0
	*AR10/40/60	30,0	60	265					
50	*AR10/50/40	20,0	40	240	60,3	80	39	6,9	2,0
	*AR10/50/60	30,0	60	300					
65	*AR10/65/45	22,5	45	245	76,1	95	58	8,1	2,0
	*AR10/65/70	35,0	70	300					
80	AR10/80/25	12,5	25	245	88,9	115	79	12,5	3,0
	*AR10/80/50	25,0	50	265				8,5	3,0
	*AR10/80/110	55,0	110	385				4,3	4,0
100	AR10/100/30	15,0	30	245	114,3	140	127	16,4	4,0
	*AR10/100/60	30,0	60	285				9,4	5,0
	*AR10/100/110	55,0	110	385				5,5	6,0
125	AR10/125/30	15,0	30	270	139,7	175	192	24,4	6,0
	*AR10/125/60	30,0	60	295				16,4	7,0
	AR10/125/110	55,0	110	430				8,4	10,0
150	AR10/150/30	15,0	30	270	168,3	205	266	29,5	8,0
	AR10/150/60	30,0	60	295				19,7	9,0
	*AR10/150/110	55,0	110	430				9,9	11,0
175	AR10/175/30	15,0	30	295	193,7	235	358	45,7	12,0
	AR10/175/60	30,0	60	320				26,5	12,0
	AR10/175/110	55,0	110	400				16,6	15,0
200	AR10/200/30	15,0	30	295	219,1	260	447	51,7	14,0
	AR10/200/60	30,0	60	320				29,9	14,0
	AR10/200/110	55,0	110	415				17,5	18,0
225	AR10/225/30	15,0	30	295	244,5	285	549	57,8	16,0
	AR10/225/60	30,0	60	320				33,2	17,0
	AR10/225/120	60,0	120	440				17,5	22,0
250	AR10/250/30	15,0	30	295	273,0	315	677	64,8	18,0
	AR10/250/60	30,0	60	320				37,0	19,0
	AR10/250/120	60,0	120	455				18,6	26,0
300	AR10/300/70	35,0	70	350	323,9	385	976	47,0	27,0
	AR10/300/125	62,5	125	465				26,8	34,0
350	AR10/350/70	35,0	70	340	355,6	425	1181	36,9	29,0
	AR10/350/125	62,5	125	450				20,2	39,0
400	AR10/400/70	35,0	70	340	406,4	475	1510	42,0	33,0
	AR10/400/125	62,5	125	450				22,9	45,0
450	AR10/450/70	35,0	70	390	457,2	540	1934	68,3	47,0
	AR10/450/150	75,0	150	555				31,1	65,0
500	AR10/500/70	35,0	70	390	508,0	595	2349	75,6	52,0
	AR10/500/150	75,0	150	555				34,4	75,0
600	AR10/600/70	35,0	70	390	609,6	695	3301	89,9	80,0
	AR10/600/150	75,0	150	555				40,9	90,0
700	AR10/700/70	35,0	70	390	711,2	795	4415	104,2	93,0
	AR10/700/150	75,0	150	555				47,4	120,0
750	AR10/750/70	35,0	70	390	762,0	850	5032	111,4	95,0
	AR10/750/150	75,0	150	555				50,7	125,0
800	AR10/800/70	35,0	70	390	812,8	900	5690	118,6	100,0
	AR10/800/150	75,0	150	555				53,9	135,0

\* Compensatori disponibili a stock.

# AR10F

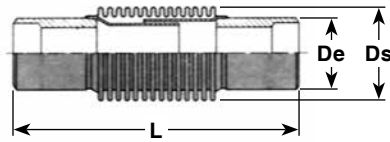
Condizioni  
massime  
di esercizio:  
9 bar @ 300°C



DN	Modello	Movimento		Lunghezza libera L (mm)	Diametro esterno soffierto Ds (mm)	Diametro esterno flange Df (mm)	Sezione effettiva S (cm <sup>2</sup> )	Carico di deformaz. assiale Kc (kg/mm)	Peso appr. (kg)
		± (mm)	totale (mm)						
40	AR10F/40/38	19,0	38	212	59	150	22	8,2	5,0
	AR10F/40/60	30,0	60	277					
50	AR10F/50/40	20,0	40	252	80	165	39	6,9	7,0
	AR10F/50/60	30,0	60	312					
65	AR10F/65/45	22,5	45	257	95	185	58	8,1	8,0
	AR10F/65/70	35,0	70	312					
80	AR10F/80/25	12,5	25	257	115	200	79	12,5	10,0
	AR10F/80/50	25,0	50	277					
	AR10F/80/110	55,0	110	397					
100	AR10F/100/30	15,0	30	258	140	220	127	16,4	13,0
	AR10F/100/60	30,0	60	298					
	AR10F/100/110	55,0	110	398					
125	AR10F/125/30	15,0	30	284	175	250	192	24,4	17,0
	AR10F/125/60	30,0	60	309					
	AR10F/125/110	55,0	110	444					
150	AR10F/150/30	15,0	30	285	205	285	266	29,5	22,0
	AR10F/150/60	30,0	60	310					
	AR10F/150/110	55,0	110	445					
200	AR10F/200/30	15,0	30	313	260	340	447	51,7	33,0
	AR10F/200/60	30,0	60	338					
	AR10F/200/110	55,0	110	433					
250	AR10F/250/30	15,0	30	314	315	405	677	64,8	46,0
	AR10F/250/60	30,0	60	339					
	AR10F/250/120	60,0	120	474					
300	AR10F/300/70	35,0	70	370	385	460	976	47,0	65,0
	AR10F/300/125	62,5	125	485					
350	AR10F/350/70	35,0	70	362	425	520	1181	36,9	85,0
	AR10F/350/125	62,5	125	472					

# AR16

Condizioni massime di esercizio: 16 bar @ 300°C

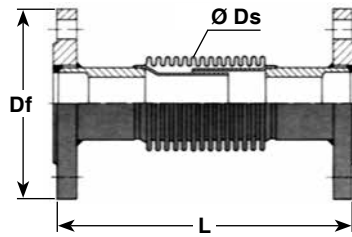


DN	Modello	Movimento		Lunghezza libera L (mm)	Diametro esterno tubazione De (mm)	Diametro esterno soffietto Ds (mm)	Sezione effettiva S (cm <sup>2</sup> )	Carico di deformaz. assiale Kc (kg/mm)	Peso appr. (kg)
		± (mm)	totale (mm)						
40	*AR16/40/38	19,0	38	210	48,3	60	23	11,1	1,0
	*AR16/40/60	30,0	60	280					
50	*AR16/50/40	20,0	40	230	60,3	85	39	8,1	2,0
	*AR16/50/60	30,0	60	300					
65	*AR16/65/45	22,5	45	240	76,1	100	57	13,5	3,0
	*AR16/65/70	35,0	70	315					
80	AR16/80/30	15,0	30	245	88,9	115	79	12,5	4,0
	*AR16/80/50	25,0	50	275				14,3	5,0
	*AR16/80/100	50,0	100	405				7,1	6,0
100	*AR16/100/30	15,0	30	245	114,3	145	129	16,4	5,0
	*AR16/100/60	30,0	60	275				21,7	6,0
	*AR16/100/110	55,0	110	405				10,9	8,0
125	AR16/125/30	15,0	30	270	139,7	180	193	24,4	7,0
	*AR16/125/60	30,0	60	315				18,9	10,0
	*AR16/125/110	55,0	110	450				10,3	13,0
150	AR16/150/30	15,0	30	270	168,3	205	268	29,5	10,0
	*AR16/150/60	30,0	60	315				22,3	13,0
	*AR16/150/110	55,0	110	450				12,2	17,0
175	AR16/175/30	15,0	30	295	193,7	240	360	45,7	14,0
	AR16/175/60	30,0	60	330				32,6	18,0
	AR16/175/110	55,0	110	460				18,2	24,0
200	AR16/200/30	15,0	30	295	219,1	265	450	51,7	16,0
	*AR16/200/60	30,0	60	330				36,5	21,0
	*AR16/200/110	55,0	110	460				20,3	26,0
225	AR16/225/30	15,0	30	295	244,5	290	552	57,4	18,0
	AR16/225/60	30,0	60	330				40,6	23,0
	AR16/225/110	55,0	110	460				22,5	30,0
250	AR16/250/30	15,0	30	295	273,0	315	680	64,8	20,0
	AR16/250/60	30,0	60	330				45,2	25,0
	AR16/250/110	55,0	110	460				25,1	33,0
300	AR16/300/70	35,0	70	385	323,9	385	980	51,6	39,0
	AR16/300/125	62,5	125	525				43,4	48,0
350	AR16/350/70	35,0	70	390	355,6	430	1191	54,6	48,0
	AR16/350/125	62,5	125	505				44,7	50,0
400	AR16/400/70	35,0	70	390	406,4	480	1520	61,9	55,0
	AR16/400/125	62,5	125	505				50,5	57,0
450	AR16/450/70	35,0	70	430	457,2	545	1943	70,9	66,0
	AR16/450/125	62,5	125	545				42,5	84,0
500	AR16/500/70	35,0	70	430	508,0	595	2358	78,1	73,0
	AR16/500/125	62,5	125	545				46,9	93,0
600	AR16/600/70	35,0	70	430	609,6	700	3312	92,7	89,0
	AR16/600/125	62,5	125	545				55,6	114,0
700	AR16/700/70	35,0	70	430	711,2	800	4427	107,3	104,0
	AR16/700/140	70,0	140	575				58,5	139,0
750	AR16/750/70	35,0	70	430	762,0	850	5045	114,6	111,0
	AR16/750/140	70,0	140	575				62,5	148,0
800	AR16/800/70	35,0	70	430	812,8	900	5704	121,9	118,0
	AR16/800/140	70,0	140	575				66,5	159,0

\* Compensatori disponibili a stock.

# AR16F

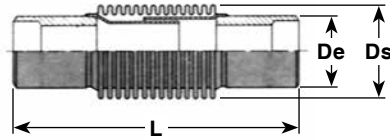
Condizioni  
massime  
di esercizio:  
9 bar @ 300°C



DN	Modello	Movimento		Lunghezza libera L (mm)	Diametro esterno soffiutto Ds (mm)	Diametro esterno flange Df (mm)	Sezione effettiva S (cm <sup>2</sup> )	Carico di deformaz. assiale Kc (kg/mm)	Peso appr. (kg)	
		± (mm)	totale (mm)							
40	AR16F/40/38	19,0	38	222	60	150	23	11,1	5,0	
	AR16F/40/60	30,0	60	292						6,5
50	AR16F/50/40	20,0	40	242	85	165	39	8,1	7,0	
	AR16F/50/60	30,0	60	312						4,9
65	AR16F/65/45	22,5	45	252	100	185	57	13,5	9,0	
	AR16F/65/60	30,0	60	327						8,0
80	AR16F/80/30	15,0	30	257	115	200	79	12,5	11,0	
	AR16F/80/50	25,0	50	287						14,3
	AR16F/80/100	50,0	100	417						7,1
100	AR16F/100/30	15,0	30	258	145	220	129	16,4	14,0	
	AR16F/100/60	30,0	60	288						21,7
	AR16F/100/110	55,0	110	418						10,9
125	AR16F/125/30	15,0	30	284	180	250	193	24,4	18,0	
	AR16F/125/60	30,0	60	329						18,9
	AR16F/125/110	55,0	110	464						10,3
150	AR16F/150/30	15,0	30	285	205	285	268	29,5	24,0	
	AR16F/150/60	30,0	60	330						22,3
	AR16F/150/110	55,0	110	465						12,2
200	AR16F/200/30	15,0	30	313	265	340	450	51,7	35,0	
	AR16F/200/60	30,0	60	348						36,5
	AR16F/200/110	55,0	110	478						20,3
250	AR16F/250/30	15,0	30	314	315	405	680	64,8	48,0	
	AR16F/250/60	30,0	60	349						45,2
	AR16F/250/110	55,0	110	479						25,1
300	AR16F/300/70	35,0	70	405	385	460	980	51,6	77,0	
	AR16F/300/125	62,5	125	545						43,4
350	AR16F/350/70	35,0	70	412	430	520	1191	54,6	104,0	
	AR16F/350/125	62,5	125	527						44,7

# AR25

Condizioni massime di esercizio: 25 bar @ 300°C



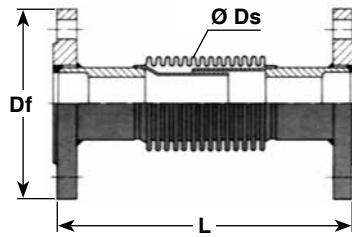
DN	Modello	Movimento		Lunghezza libera L (mm)	Diametro esterno tubazione De (mm)	Diametro esterno soffietto Ds (mm)	Sezione effettiva S (cm <sup>2</sup> )	Carico di deformaz. assiale Kc (kg/mm)	Peso appr. (kg)
		± (mm)	totale (mm)						
40	AR25/40/20	10,0	20	190	48,3	60	23	13,8	1,0
	*AR25/40/40	20,0	40	255					
50	AR25/50/25	12,5	25	220	60,3	80	38	14,0	2,0
	*AR25/50/48	24,0	48	300					
65	AR25/65/25	12,5	25	225	76,1	95	58	16,1	3,0
	*AR25/65/48	24,0	48	300					
80	AR25/80/30	15,0	30	255	88,9	115	80	19,1	4,0
	*AR25/80/60	30,0	60	370					
100	AR25/100/30	15,0	30	255	114,3	140	128	24,1	6,0
	*AR25/100/60	30,0	60	370					
125	AR25/125/45	22,5	45	310	139,7	175	192	25,9	9,0
	*AR25/125/90	45,0	90	460					
150	AR25/150/45	22,5	45	310	168,3	205	267	31,1	13,0
	*AR25/150/90	45,0	90	460					
175	AR25/175/45	22,5	45	320	193,7	240	360	49,4	19,0
	AR25/175/90	45,0	90	470					
200	AR25/200/45	22,5	45	320	219,1	265	450	55,6	21,0
	*AR25/200/90	45,0	90	470					
225	AR25/225/45	22,5	45	320	244,5	290	552	61,5	23,0
	AR25/225/90	45,0	90	470					
250	AR25/250/45	22,5	45	320	273,0	315	680	68,6	25,0
	AR25/250/90	45,0	90	470					
300	AR25/300/60	30,0	60	390	323,9	385	979	73,8	38,0
	AR25/300/80	40,0	80	445					
350	AR25/350/60	30,0	60	380	355,6	430	1191	76,5	54,0
	AR25/350/90	45,0	90	455					
400	AR25/400/60	30,0	60	380	406,4	480	1521	86,7	53,0
	AR25/400/90	45,0	90	455					
450	AR25/450/60	30,0	60	430	457,2	535	1891	96,9	65,0
	AR25/450/90	45,0	90	505					
500	AR25/500/60	30,0	60	430	508,0	585	2302	107,1	73,0
	AR25/500/90	45,0	90	505					
600	AR25/600/60	30,0	60	430	609,6	685	3245	127,5	90,0
	AR25/600/90	45,0	90	505					
700	AR25/700/60	30,0	60	450	711,2	800	4427	165,0	110,0
	AR25/700/90	45,0	90	535					
750	AR25/750/60	30,0	60	450	762,0	850	5045	176,5	120,0
	AR25/750/90	45,0	90	535					
800	AR25/800/60	30,0	60	450	812,8	900	5704	188,0	125,0
	AR25/800/90	45,0	90	535					

\* Compensatori disponibili a stock nella versione con attacchi a saldare.

# AR25F

Condizioni massime di esercizio:

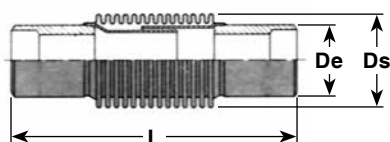
25 bar @ 300°C DN40÷150  
 @ 120°C DN200÷300  
 20 bar @ 120°C DN350  
 17 bar @ 300°C DN200÷350



DN	Modello	Movimento		Lunghezza libera L (mm)	Diametro esterno soffierto Ds (mm)	Diametro esterno flange Df (mm)	Sezione effettiva S (cm <sup>2</sup> )	Carico di deformaz. assiale Kc (kg/mm)	Peso appr. (kg)
		± (mm)	totale (mm)						
40	AR25F/40/20	10,0	20	202	60	150	23	13,8	5,0
	AR25F/40/40	20,0	40	267					
50	AR25F/50/25	12,5	25	232	80	165	38	14,0	7,0
	AR25F/50/48	24,0	48	312					
65	AR25F/65/25	12,5	25	237	95	185	58	16,1	10,0
	AR25F/65/48	24,0	48	312					
80	AR25F/80/30	15,0	30	267	115	200	80	19,1	13,0
	AR25F/80/60	30,0	60	382					
100	AR25F/100/30	15,0	30	268	140	235	128	24,1	18,0
	AR25F/100/60	30,0	60	383					
125	AR25F/125/45	22,5	45	324	175	270	192	25,9	25,0
	AR25F/125/90	45,0	90	474					
150	AR25F/150/45	22,5	45	325	205	300	267	31,1	34,0
	AR25F/150/90	45,0	90	475					
200	AR25F/200/45	22,5	45	338	265	360	450	55,6	50,0
	AR25F/200/90	45,0	90	488					
250	AR25F/250/45	22,5	45	339	315	425	680	68,6	65,0
	AR25F/250/90	45,0	90	489					
300	AR25F/300/60	30,0	60	410	385	485	979	73,8	91,0
	AR25F/300/80	40,0	80	465					
350	AR25F/350/60	30,0	60	402	430	555	1191	76,5	138,0
	AR25F/350/90	45,0	90	477					

# AR40

Condizioni  
massime  
di esercizio:  
40 bar @ 300°C



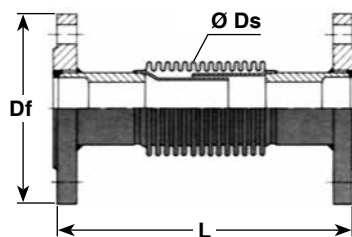
DN	Modello	Movimento		Lunghezza libera L (mm)	Diametro esterno tubazione De (mm)	Diametro esterno soffietto Ds (mm)	Sezione effettiva S (cm <sup>2</sup> )	Carico di deformaz. assiale Kc (kg/mm)	Peso appr. (kg)
		± (mm)	totale (mm)						
50	AR40/50/12,5	6,25	12,5	180	60,3	75	36	24,5	2,0
	AR40/50/25	12,50	25,0	375					
65	AR40/65/12,5	6,25	12,5	180	76,1	90	55	28,6	3,0
	AR40/65/25	12,50	25,0	380					
80	AR40/80/20	10,00	20,0	230	88,9	110	72	32,3	4,0
	AR40/80/40	20,00	40,0	470					
100	AR40/100/20	10,00	20,0	230	114,3	135	121	42,9	5,0
	AR40/100/40	20,00	40,0	485					
125	AR40/125/30	15,00	30,0	285	139,7	170	184	45,9	9,0
	AR40/125/60	30,00	60,0	605					
150	AR40/150/30	15,00	30,0	285	168,3	195	257	55,4	12,0
	AR40/150/60	30,00	60,0	610					
175	AR40/175/40	20,00	40,0	335	193,7	230	349	60,6	19,0
	AR40/175/80	40,00	80,0	760					
200	AR40/200/40	20,00	40,0	335	219,1	255	437	68,3	21,0
	AR40/200/80	40,00	80,0	785					
225	AR40/225/40	20,00	40,0	335	244,5	280	539	75,7	23,0
	AR40/225/80	40,00	80,0	805					
250	AR40/250/40	20,00	40,0	335	273,0	310	665	84,6	26,0
	AR40/250/80	40,00	80,0	825					
300	AR40/300/45	22,50	45,0	380	323,9	375	943	130,7	40,0
	AR40/300/90	45,00	90,0	940					
350	AR40/350/50	25,00	50,0	415	355,6	415	1140	111,5	48,0
	AR40/350/100	50,00	100,0	1055					
400	AR40/400/50	25,00	50,0	415	406,4	465	1464	127,4	60,0
	AR40/400/100	50,00	100,0	1085					
450	AR40/450/60	30,00	60,0	495	457,2	535	1891	121,7	100,0
	AR40/450/120	60,00	120,0	1220					
500	AR40/500/60	30,00	60,0	495	508,0	585	2302	134,9	115,0
	AR40/500/120	60,00	120,0	1225					
600	AR40/600/60	30,00	60,0	495	609,6	685	3245	161,3	155,0
	AR40/600/120	60,00	120,0	1250					



# AR40F

Condizioni  
massime  
di esercizio:

40 bar @ 120°C DN50÷150  
32 bar @ 120°C DN200÷300  
29 bar @ 120°C DN350  
28 bar @ 300°C DN50÷300  
25 bar @ 300°C DN350



DN	Modello	Movimento		Lunghezza libera L (mm)	Diametro esterno soffiato Ds (mm)	Diametro esterno flange Df (mm)	Sezione effettiva S (cm <sup>2</sup> )	Carico di deformaz. assiale Kc (kg/mm)	Peso appr. (kg)
		± (mm)	totale (mm)						
50	AR40F/50/12,5	6,25	12,5	192	75	165	36	24,5	7,0
	AR40F/50/25	12,50	25,0	387					
65	AR40F/65/12,5	6,25	12,5	192	90	185	55	28,6	10,0
	AR40F/65/25	12,50	25,0	392					
80	AR40F/80/20	10,00	20,0	242	110	200	72	32,3	13,0
	AR40F/80/40	20,00	40,0	482					
100	AR40F/100/20	10,00	20,0	243	135	235	121	42,9	18,0
	AR40F/100/40	20,00	40,0	498					
125	AR40F/125/30	15,00	30,0	299	170	270	184	45,9	25,0
	AR40F/125/60	30,00	60,0	619					
150	AR40F/150/30	15,00	30,0	300	195	300	257	55,4	34,0
	AR40F/150/60	30,00	60,0	625					
200	AR40F/200/40	20,00	40,0	353	255	375	437	68,3	57,0
	AR40F/200/80	40,00	80,0	803					
250	AR40F/250/40	20,00	40,0	354	310	450	665	84,6	84,0
	AR40F/250/80	40,00	80,0	844					
300	AR40F/300/45	22,50	45,0	400	375	515	943	130,7	121,0
	AR40F/300/90	45,00	90,0	960					
350	AR40F/350/50	25,00	50,0	437	415	580	1140	111,5	178,0
	AR40F/350/100	50,00	100,0	1077					

**Allungamento delle tubazioni in mm/100 m**

Temperatura (°C)	Acciaio al carbonio	Acciaio al carbonio-molibdeno e 4÷6% Cr	Acciaio 12% Cr	Acciaio inossidabile 18% Cr - 8% Ni
-50	-71,5	-71,5	-72,0	-112,0
-40	-60,8	-60,8	-61,1	-94,9
-30	-50,0	-50,0	-50,1	-77,7
-25	-44,6	-44,6	-44,6	-69,0
-20	-39,1	-39,1	-39,1	-60,0
-15	-33,6	-33,6	-33,5	-51,8
-5	-22,5	-22,5	-22,4	-34,5
0	-16,9	-16,9	-16,8	-25,9
5	-11,3	-11,3	-11,2	-17,3
10	-5,7	-5,7	-5,6	-8,6
15	0,0	0,0	0,0	0,0
20	5,7	5,7	5,6	8,6
25	11,4	11,4	11,3	17,2
30	17,1	17,1	17,0	25,9
35	22,9	22,9	22,6	34,5
40	28,7	28,7	28,3	43,1
45	34,5	34,5	34,1	51,8
50	40,3	40,3	39,8	60,4
55	46,2	46,2	45,5	69,0
60	52,1	52,1	51,3	77,6
65	58,0	58,0	57,0	86,2
70	64,0	64,0	62,8	94,9
75	70,0	70,0	68,6	104,0
80	75,9	75,9	74,4	112,0
85	82,0	82,0	80,3	121,0
90	88,0	88,0	86,1	129,0
95	94,1	94,1	92,0	138,0
100	100,0	100,0	97,8	147,0
110	112,0	112,0	110,0	164,0
120	125,0	125,0	121,0	181,0
130	137,0	137,0	133,0	198,0
140	150,0	150,0	145,0	216,0
150	163,0	163,0	157,0	233,0
160	175,0	175,0	169,0	250,0
170	188,0	188,0	182,0	267,0
180	201,0	201,0	194,0	284,0
190	215,0	215,0	206,0	302,0
200	228,0	228,0	218,0	319,0
210	241,0	241,0	231,0	336,0
220	254,0	254,0	243,0	353,0
230	268,0	268,0	256,0	371,0
240	282,0	282,0	268,0	388,0
250	295,0	295,0	281,0	405,0
260	309,0	309,0	293,0	422,0
270	323,0	323,0	306,0	439,0
280	337,0	337,0	319,0	457,0
290	351,0	351,0	332,0	474,0
300	366,0	366,0	345,0	491,0
310		380,0	358,0	508,0
320		394,0	371,0	526,0
330		409,0	384,0	543,0
340		424,0	397,0	560,0
350		439,0	410,0	577,0
360		453,0	423,0	594,0
370		468,0	437,0	612,0
380		483,0	450,0	629,0
390		499,0	463,0	646,0
400		514,0	477,0	663,0
410		529,0	490,0	680,0
420		545,0	504,0	699,0
430		561,0	518,0	715,0
440		576,0	531,0	732,0
450		592,0	545,0	749,0
460		608,0	559,0	766,0
470		624,0	573,0	784,0
480		640,0	587,0	801,0
490		656,0	601,0	818,0
500		673,0	615,0	835,0
510		689,0	629,0	853,0
520		706,0	643,0	869,0
530		722,0	657,0	887,0
540		739,0	672,0	904,0
550		756,0	686,0	921,0

**Nota:** per maggiori dettagli su ancoraggi o guide, consultare le "Istruzioni di installazione e manutenzione" 3.361.5275.110.