·AMSTERDAM·

Amsterdam PT and Hydraulic Systems B.V.

POST–TENSIONING SYSTEMS AND EQUIPMENT

Naspankit voor

het voorspannen van constructies met interne verlijmde strengen

Post-tensioning kit for prestressing of structures with internal bonded and unbonded strands

EOTA European Organisation for Technical Assessment

pti POST-TENSIONING INSTITUTE ®
A member of Post-Tensioning Institute

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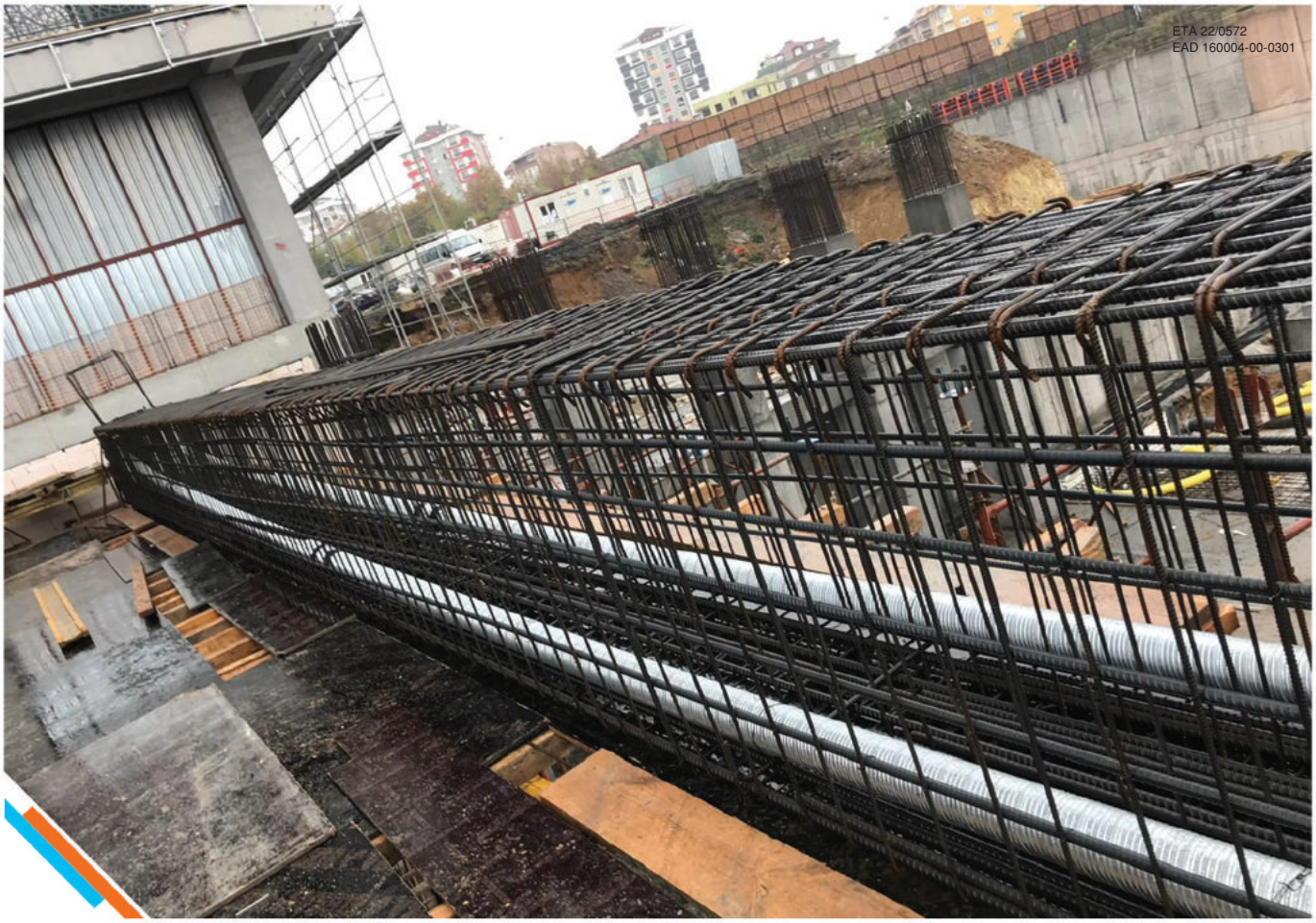
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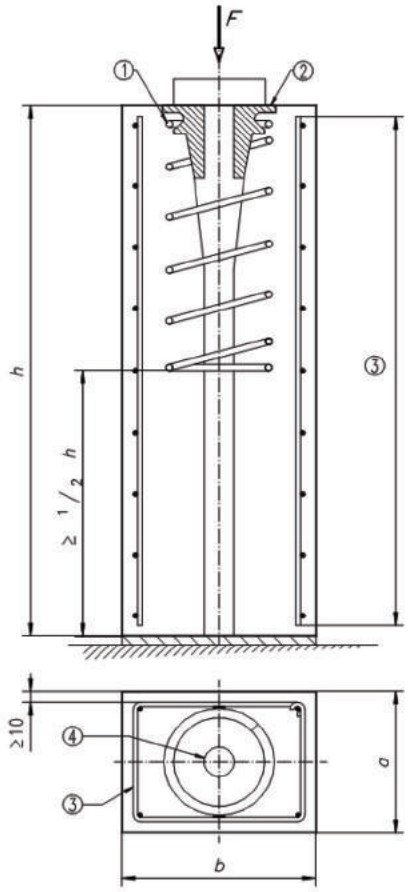
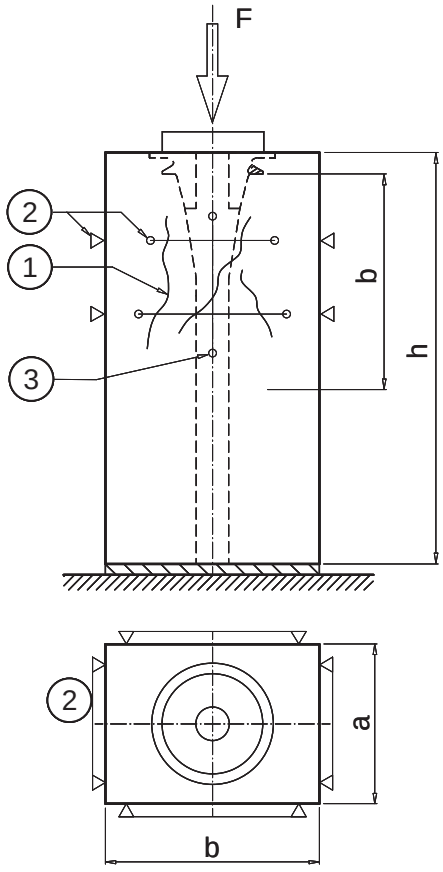
Introduction to Post-Tensioning

Concrete usage in the construction industry is providing resistance against compressive forces on structure. But these structures also require many materials to resist tensile forces. So engineers tried many alternative ways to improve behaviours of reinforcement concrete composite according to service of structures. At one point, requirement of constructing wide clearances neccesitated special designs. The post tension system is a special construction method designed to increase the tensile strength of concrete. The pressure that is required in concrete is obtained by tensing the prestressed concrete strands that are passed through galvanized corrugated ducts inside the concrete and locking them together in that tensed state. In the application of the post-tensioning system, tensing process of the prestressed concrete strands is carried out after the concrete has been applied, not before. In this way, it differs from other prestressed systems.

General Application of Post-Tensioning System

Firstly, a number of galvanized corrugated ducts in various predetermined sizes (which serve as a type of conduit) are placed inside the steel reinforcement which is prepared in accordance to the project. Next, the concrete is applied and the prestressed concrete strands are then passed through the galvanized corrugated ducts in the concrete. Necessary precalculated pressure value according to the requirements of the particular project is loaded to the concrete until determined values with usage of hydraulic stressing jacks. After the post tension operation has been carried out, the reaction (extension) values of the prestressed concrete strands in tensing process is observed, noted and compared with the original values that are required for the project. Once the post-tensioning operation was completed, grout is injected into the galvanized corrugated ducts.



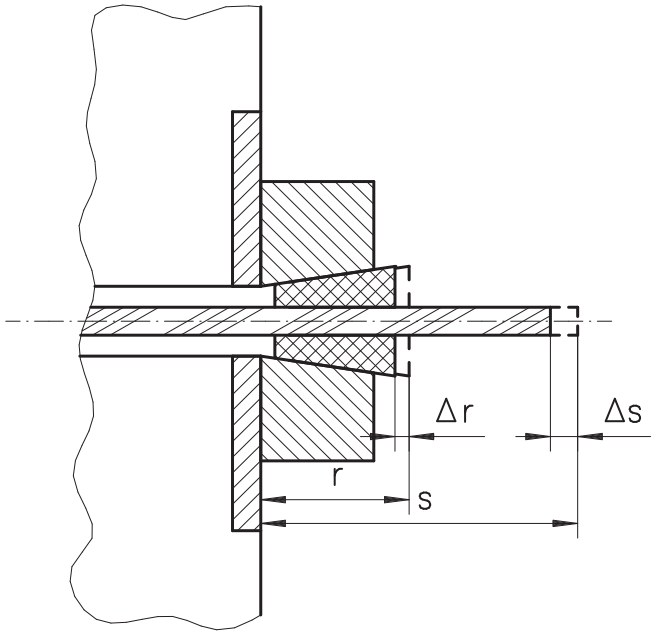


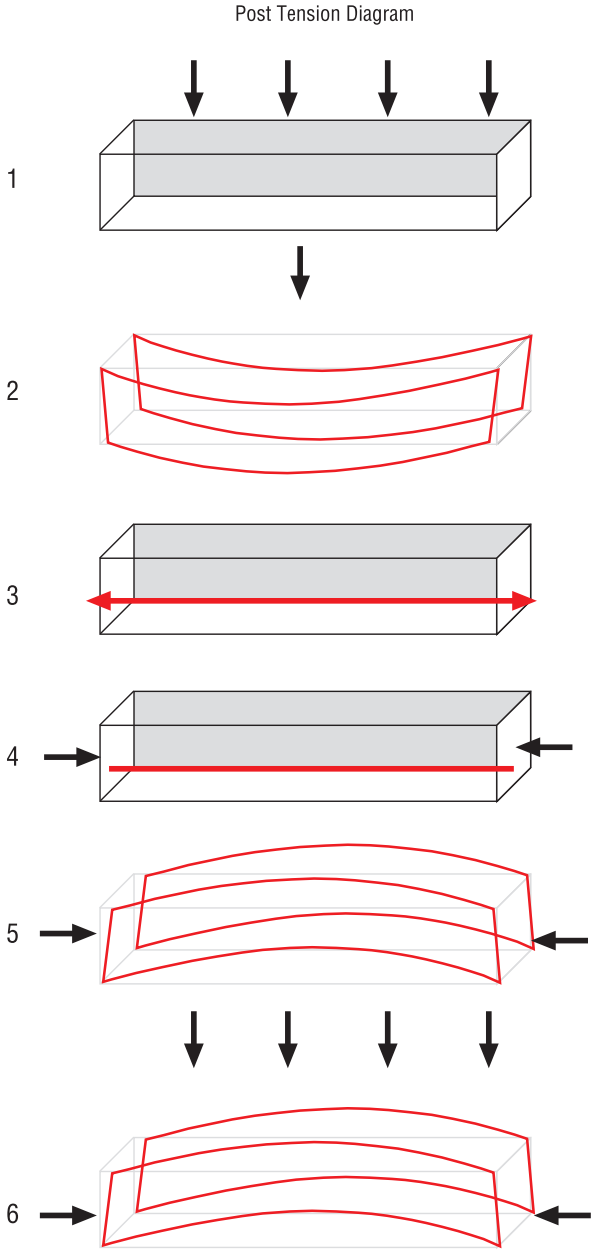
Advantages of the Post-Tensioning System

The construction time for structures being built while using the post-tensioning method is shorter than any other construction method. Whether in the constructon of bridges, apartment buildings, hotels, storage depots or any other similar superstructures, with the post-tensioning system, the gaps between the concrete bundles can be wider compared to classic methods of construction. In other words, when using the post-tensioning method, the required amounts of concrete and the steel reinforcement are less, which makes the entire structure lighter and more cost-effective to build. It is also a fact that lighter buildings are more durable against earthquakes and can withstand them more effectively.

Application Areas of Post-Tensioning System

The post-tensioning method can be used in the construction of bridges, high-rise buildings, large hotels, silos, industrial storage facilities and business centers, as well as when building swimming pools, water storage depots, chemical storage tanks and other such facilities situated in large areas where wide gap and impermeability are essential and very important.



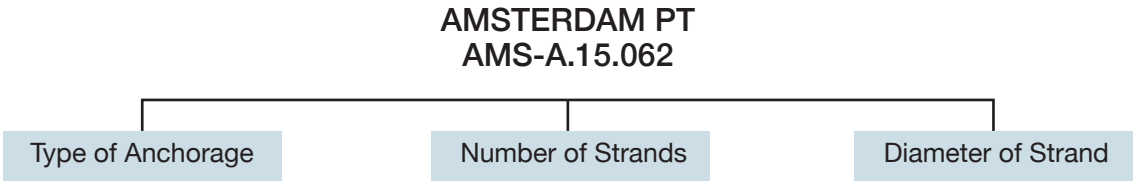


Definition of the Product

This European Technical Assessment (ETA) applies to the following kits;
Amsterdam PT - Internal Bonded and Unbonded strand post-tensioning system
Consisting of 1 to 31 strands with nominal tensile strength 1860 MPa or 1770 MPa, nominal diameter 15.7 mm (0.62"-150 mm^2) and 15.2 mm (0,6"-140 mm^2) which is used in normal-weight concrete with the following anchorages.
Stressing (active) anchorage type "A" and fixed (passive) anchorage type "P" with bonded and unbonded strands for internal posttensioning.
Coupling anchorage type "C" with bonded and unbonded strands for internal post-tensioning.
S Group type "S" and Flat Group type "F" anchorage with bonded and unbonded for internal post-tensioning.
Active and Passive Type Mono "M" anhorages with unbonded for internal post-tensioning.

Designation and range of the anchorages
• Designation
Each type of anchorage is defined as per the following example, where the three parameters shown below give full information about the product :

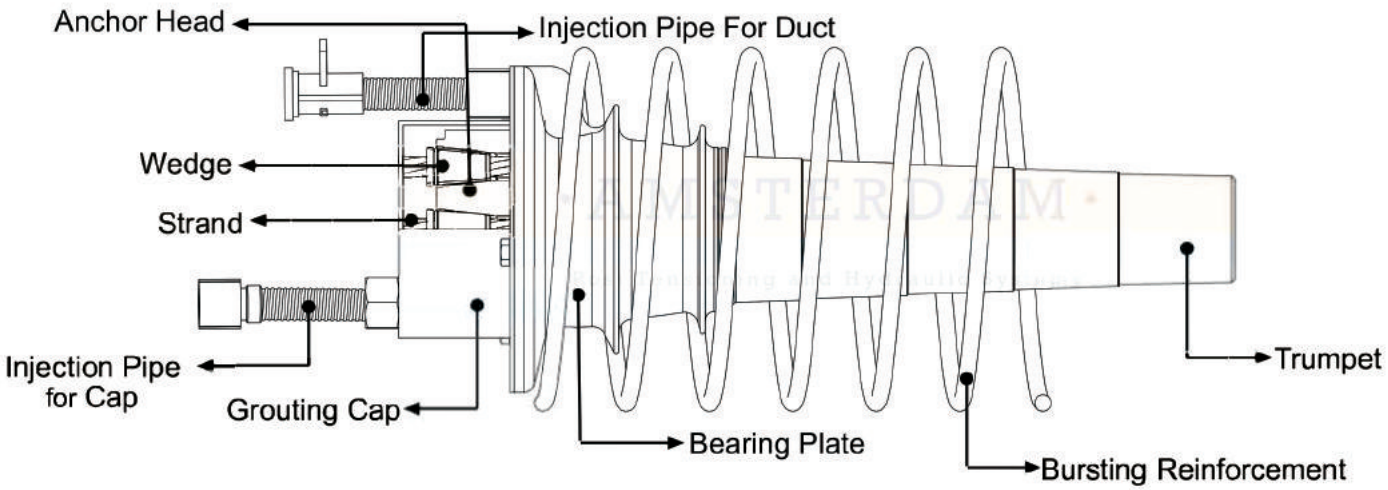
• Anchorage type :



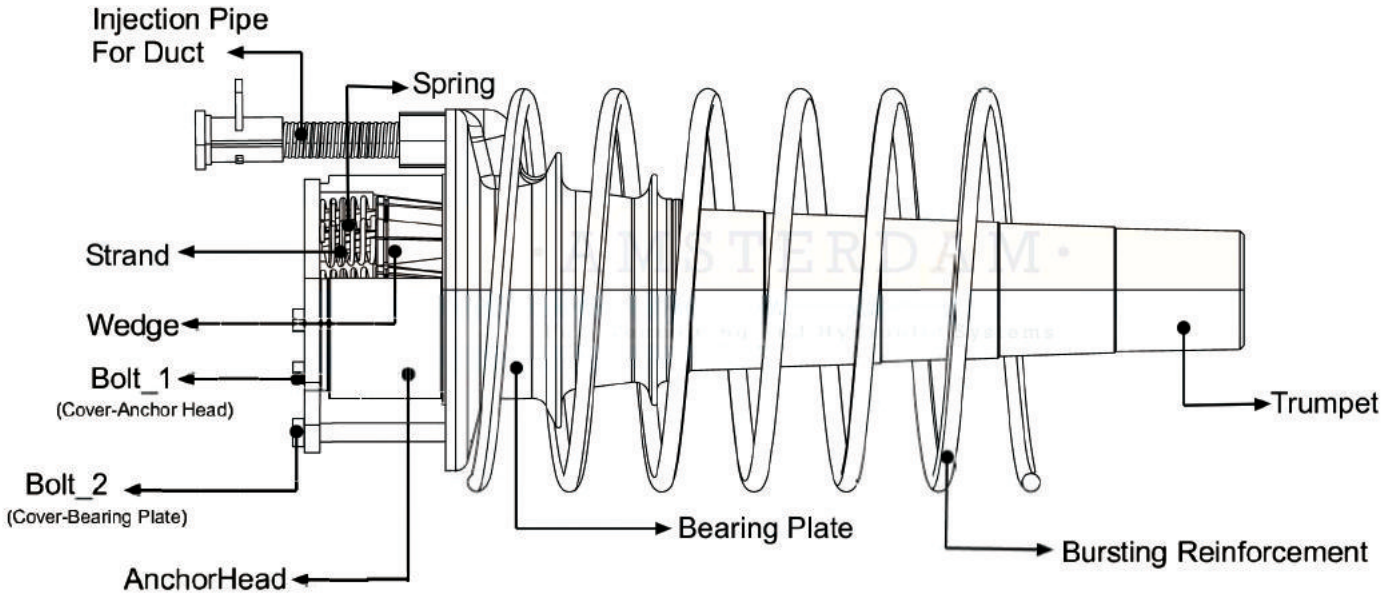
• Range

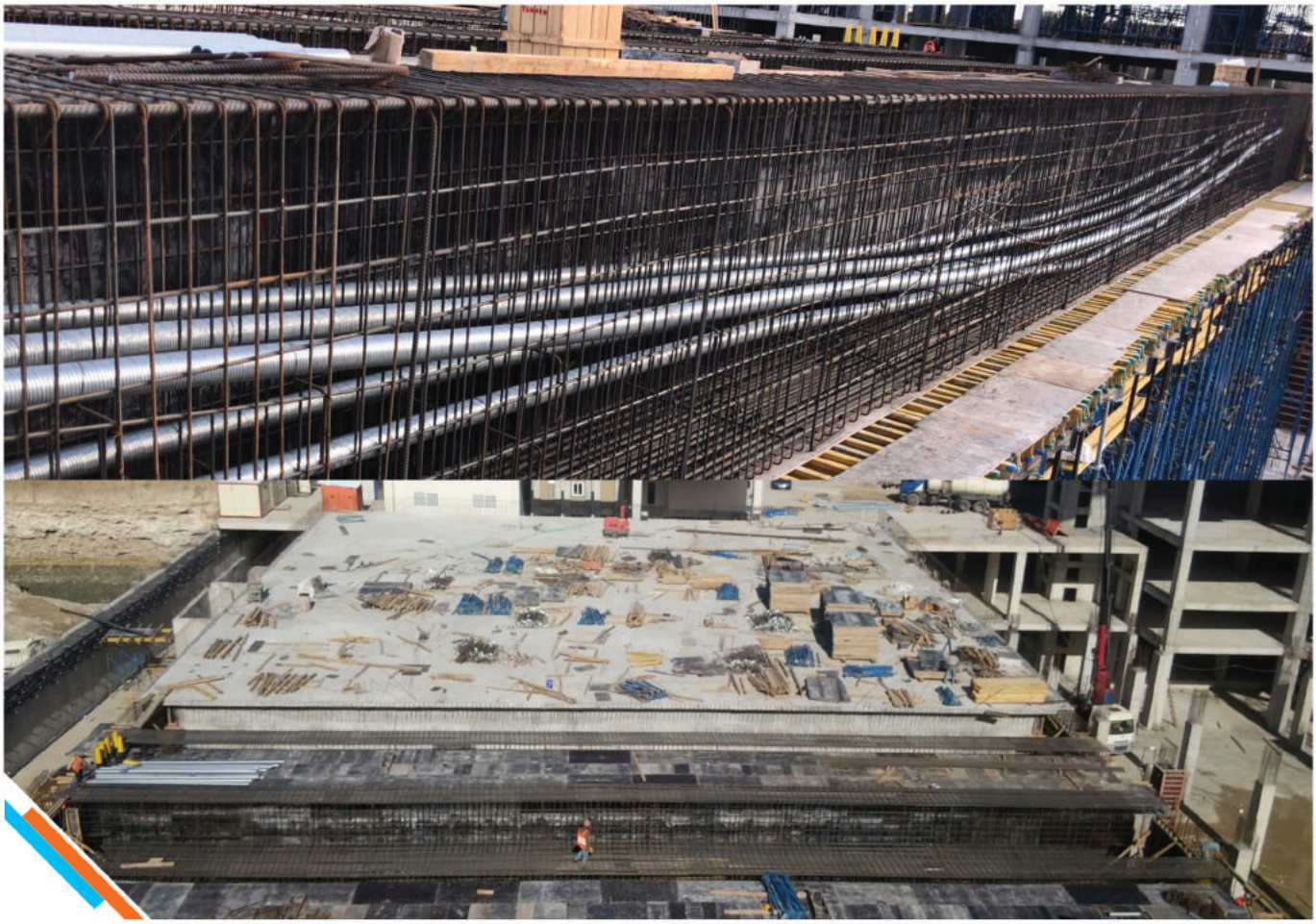
Each single parameter can change according to the following options :
Type of anchorage : AMS-A (Active Group) - AMS-P (Passive Group) - AMS-C (Coupler Group)
Number of strands : 4 - 7 - 9 - 12 - 15 - 19 - 22 - 27 - 31
Type of anchorage : AMS-S (S Group) - AMS-F (Flat Group)
Number of strands : 2 - 3- 4- 5
Type of anchorage : AMS-M (Active and Passive Type Mono)
Number of strands : 1

AMS-A / INTERNAL BONDED and UNBONDED MULTI STRAND
ACTIVE ANCHOR SYSTEM



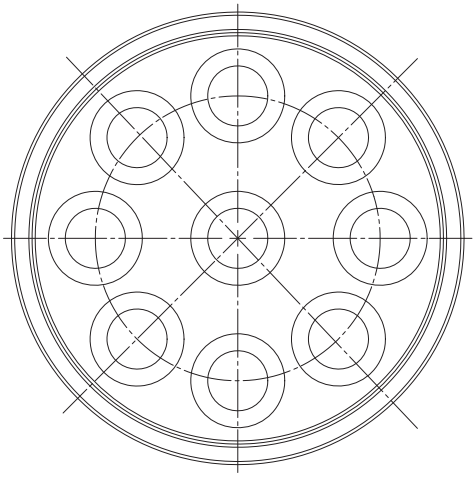
AMS-P / INTERNAL BONDED and UNBONDED MULTI STRAND
PASSIVE ANCHOR SYSTEM



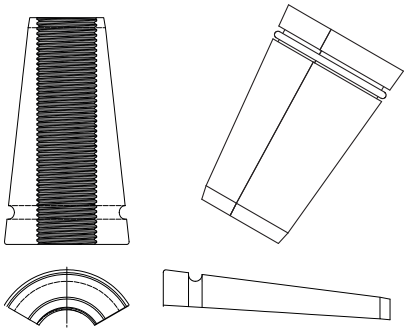


Strand

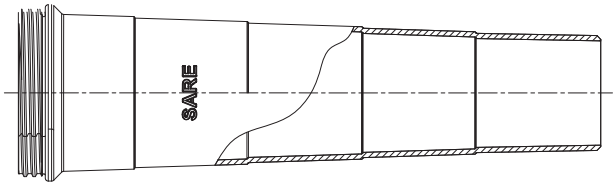
Anchor Head



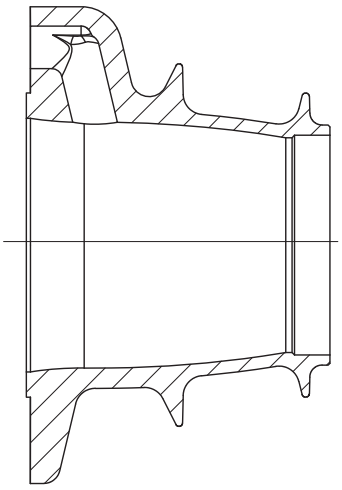
Wedge



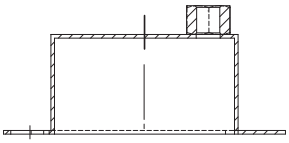
Trumpet



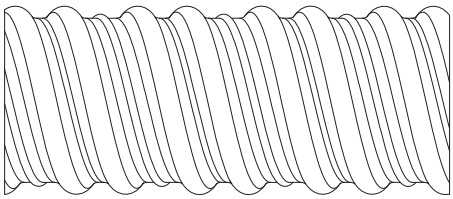
Bearing Plate

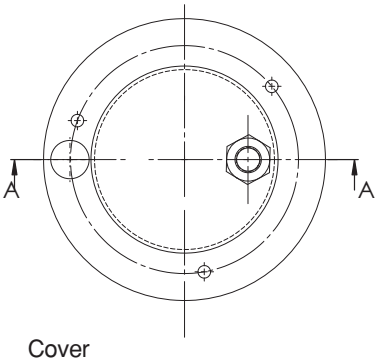


Grouting Cap

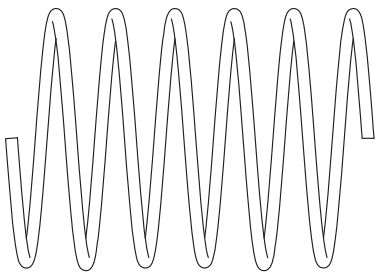


Galvanized Duct

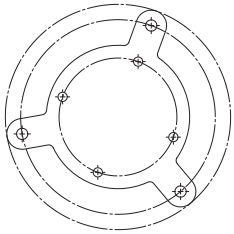




Bursting Reinforcement



Cover



Bolt-1
Cover-Bearing Plate

Bolt-2
Cover-Anchor Head

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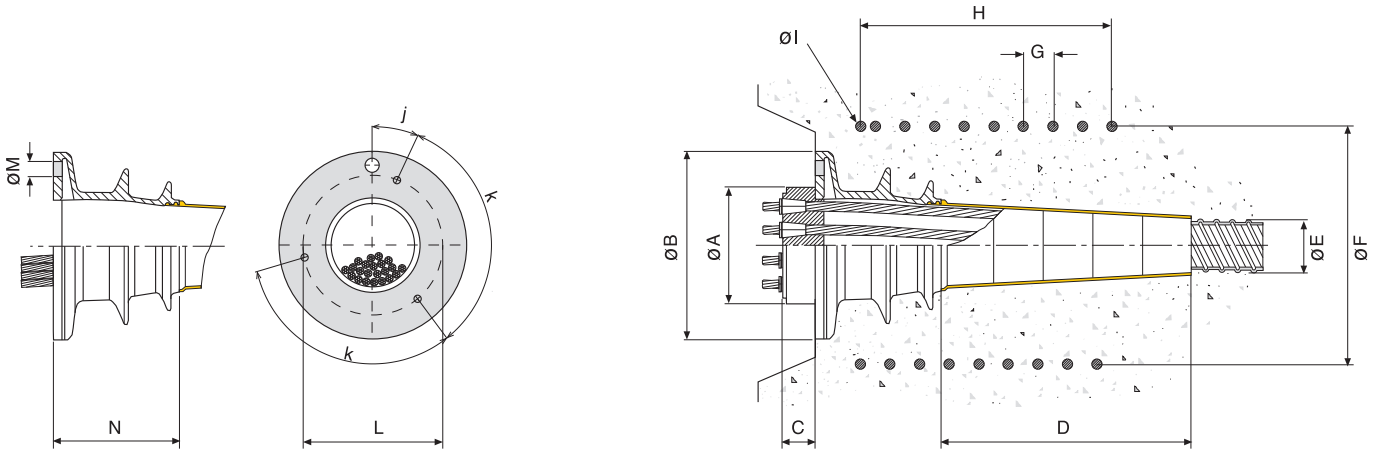
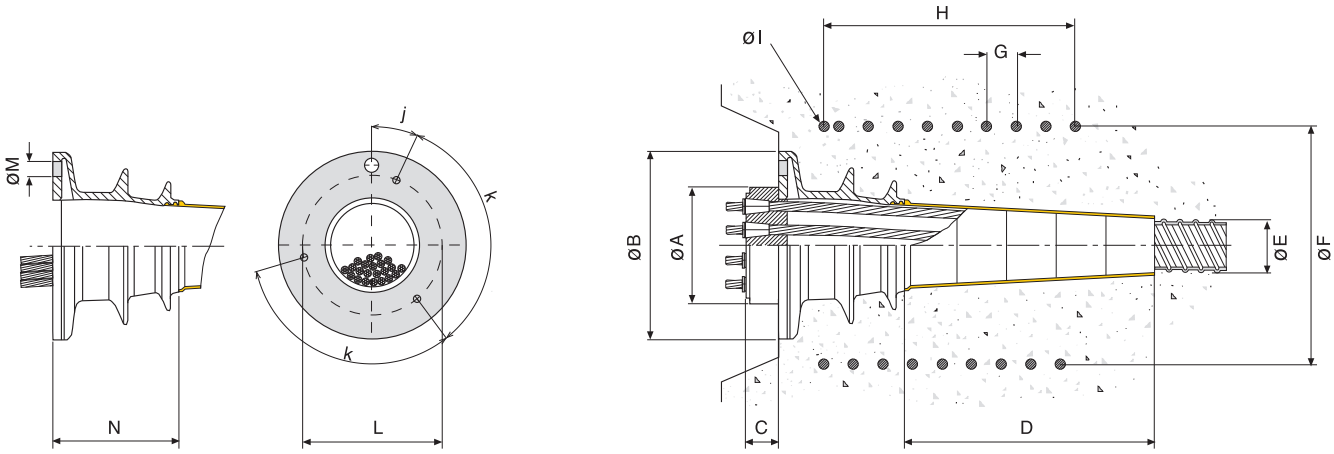
AMS-A SERIES ACTIVE TYPE ANCHORAGE



Model No		AMS-A.4.062	AMS-A.7.062	AMS-A.9.062	AMS-A.12.062	AMS-A.15.062
Number of Strands		4	7	9	12	15
Strands Arrangement						
ANCHOR HEAD						
A	Ø (mm)	Ø 105	Ø 123	Ø 146	Ø 157	Ø 175
B	Ø (mm)	Ø 182	Ø 200	Ø 235	Ø 260	Ø 290
C	mm	48	49	49	58	62
TRUMPET						
D	mm	308	334	372	386	403
GALVANIZED DUCT						
E	Ø (mm)	Ø 50	Ø 60	Ø 75	Ø 85	Ø 95
Internal Dia.	Ø (mm)	Ø 45	Ø 55	Ø 70	Ø 80	Ø 90
HELIX						
F	Ø (mm)	Ø 170	Ø 220	Ø 250	Ø 310	Ø 350
G	mm	50	60	60	60	65
H	mm	300	360	360	420	455
I	Ø (mm)	Ø 10	Ø 12	Ø 12	Ø 14	Ø 14
BEARING PLATE						
J	Ø (mm)	90°	30°	20°	20°	20°
K	Ø (mm)	180°	120°	120°	120°	120°
L	mm	Ø 124	Ø 145	Ø 190	Ø 203	Ø 235
M	mm	G 3/4"	G 3/4"	G 3/4"	G 3/4"	G 3/4"
N	Ø (mm)	115	133	164	170	194

AMS-A SERIES ACTIVE TYPE ANCHORAGE



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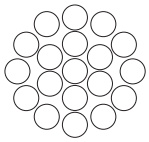
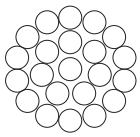
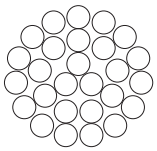
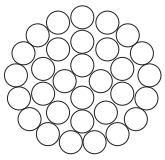
Number of Strands		19	22	27	31
Strands Arrangement					
ANCHOR HEAD					
A	Ø (mm)	Ø 197	Ø 227	Ø 250	Ø 266
B	Ø (mm)	Ø 324	Ø 351	Ø 378	Ø 401
C	mm	67	73	86	96
TRUMPET					
D	mm	431	414	472	617
GALVANIZED DUCT					
E	Ø (mm)	Ø 100	Ø 115	Ø 120	Ø 125
Internal Dia.	Ø (mm)	Ø 95	Ø 110	Ø 115	Ø 120
HELIX					
F	Ø (mm)	Ø 400	Ø 430	Ø 470	Ø 640
G	mm	70	70	80	80
H	mm	490	560	640	640
I	Ø (mm)	Ø 16	Ø 16	Ø 20	Ø 20
BEARING PLATE					
J	Ø (mm)	20°	20°	15°	15°
K	Ø (mm)	120°	120°	120°	120°
L	mm	Ø 235	Ø 290	Ø 325	Ø 350
M	mm	G 3/4"	G 1"	G 1"	G 1"
N	Ø (mm)	207	246	263	280

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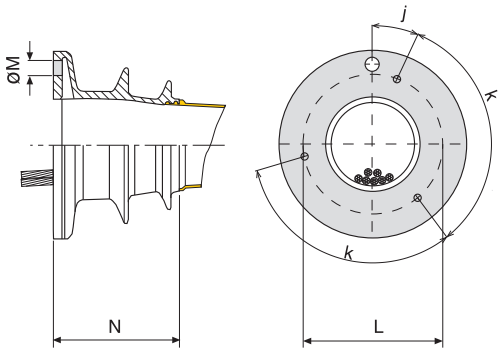
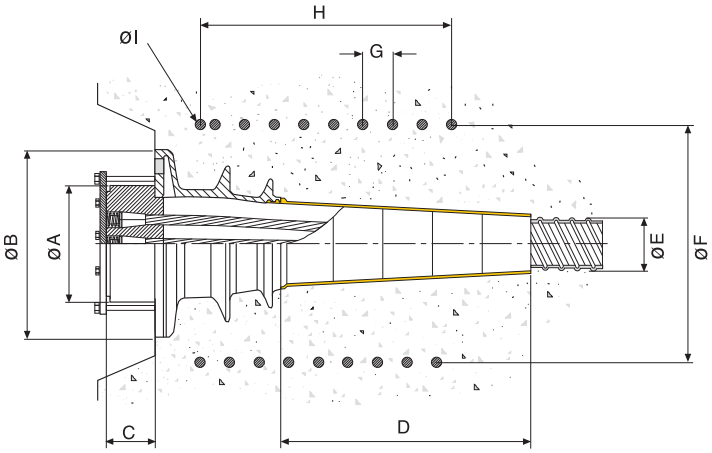
AMS-P SERIES PASSIVE TYPE ANCHORAGE





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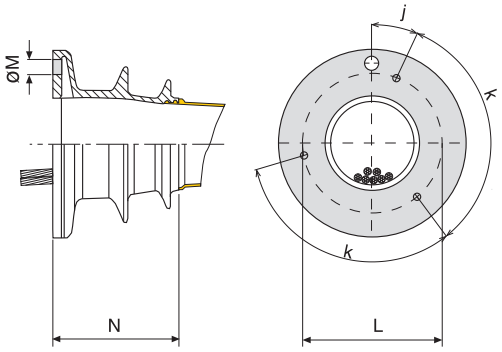
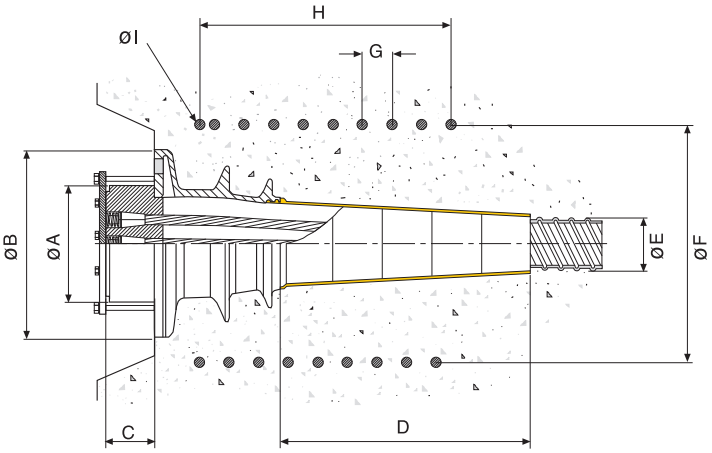
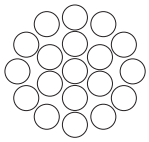
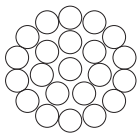
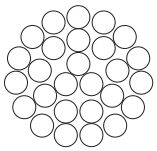
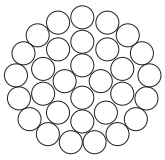
Number of Strands		4	7	9	12	15
Strands Arrangement						
ANCHOR HEAD						
A	Ø (mm)	Ø 105	Ø 123	Ø 146	Ø 157	Ø 175
B	Ø (mm)	Ø 182	Ø 200	Ø 235	Ø 260	Ø 290
C	mm	80	80	80	80	80
TRUMPET						
D	mm	308	334	372	386	403
GALVANIZED DUCT						
E	Ø (mm)	Ø 50	Ø 60	Ø 75	Ø 85	Ø 95
Internal Dia.	Ø (mm)	Ø 45	Ø 55	Ø 70	Ø 80	Ø 90
HELIX						
F	Ø (mm)	Ø 170	Ø 220	Ø 250	Ø 310	Ø 350
G	mm	50	60	60	60	65
H	mm	300	360	360	420	455
I	Ø (mm)	Ø 10	Ø 12	Ø 12	Ø 14	Ø 14
BEARING PLATE						
J	Ø (mm)	90°	30°	20°	20°	20°
K	Ø (mm)	180°	120°	120°	120°	120°
L	mm	Ø 124	Ø 145	Ø 190	Ø 203	Ø 235
M	mm	G 3/4"	G 3/4"	G 3/4"	G 3/4"	G 3/4"
N	Ø (mm)	115	133	164	170	194

AMS-P SERIES PASSIVE TYPE ANCHORAGE





Model No		AMS-P.19.062	AMS-P.22.062	AMS-P.27.062	AMS-P.31.062
Number of Strands		19	22	27	31
Strands Arrangement					
ANCHOR HEAD					
A	Ø (mm)	Ø 197	Ø 227	Ø 250	Ø 266
B	Ø (mm)	Ø 324	Ø 351	Ø 378	Ø 401
C	mm	91	96	105	114
TRUMPET					
D	mm	431	414	472	617
GALVANIZED DUCT					
E	Ø (mm)	Ø 100	Ø 115	Ø 120	Ø 125
Internal Dia.	Ø (mm)	Ø 95	Ø 110	Ø 115	Ø 120
HELIX					
F	Ø (mm)	Ø 400	Ø 430	Ø 470	Ø 640
G	mm	70	70	80	80
H	mm	490	560	640	640
I	Ø (mm)	Ø 16	Ø 16	Ø 20	Ø 20
BEARING PLATE					
J	Ø (mm)	20°	20°	15°	15°
K	Ø (mm)	120°	120°	120°	120°
L	mm	Ø 235	Ø 290	Ø 325	Ø 350
M	mm	G 3/4"	G 1"	G 1"	G 1"
N	Ø (mm)	207	246	263	280

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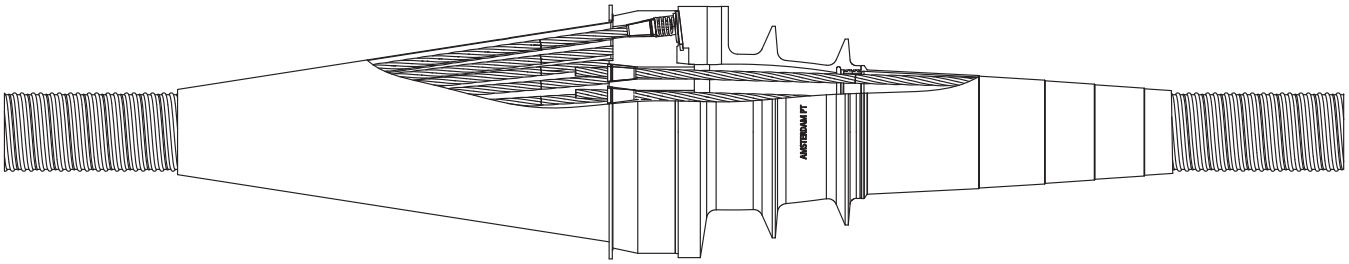
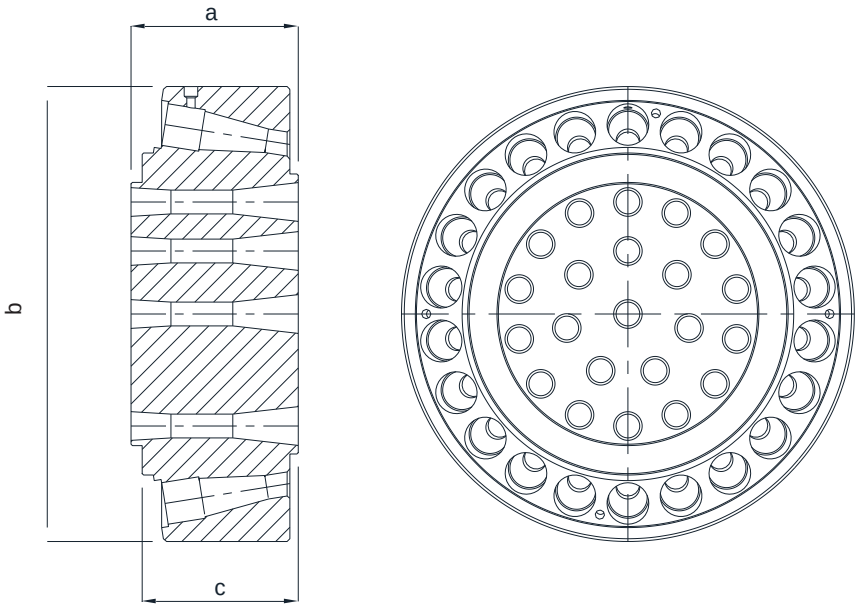
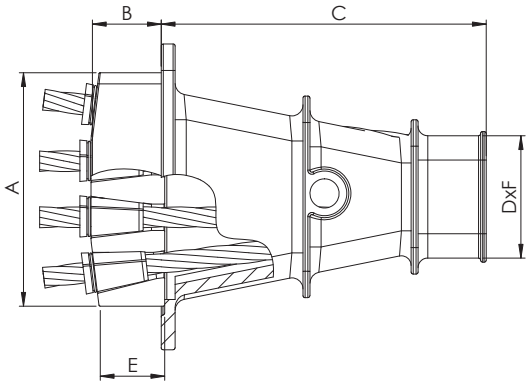
AMS-C SERIES/ INTERNAL BONDED MULTI STRAND COUPLER SYSTEM





Coupler Systems	4	7	9	12	15	19	22	27	31
a (mm)	110	110	110	110	117	122	122	127	132
b (mm)	192	212	232	250	262	282	327	342	392
c (mm)	105	105	105	105	112	114	114	117	122

Model No.	Number of Strand	Intended Use	Strand Diameter (mm)
AMS-F2.05	2	Bonded and Unbonded Tendon	12,70
AMS-F3.05	3	Bonded and Unbonded Tendon	12,70
AMS-F4.05	4	Bonded and Unbonded Tendon	12,70
AMS-F5.05	5	Bonded and Unbonded Tendon	12,70



Model No.	A	B	C	DXF	E
	mm	mm	mm	mm	mm
AMS-F2.05	130	55	195	58 x 28	42
AMS-F3.05	130	55	195	58 x 28	42
AMS-F4.05	168	60	234	72 x 28	47
AMS-F5.05	205	60	245	90 x 28	47

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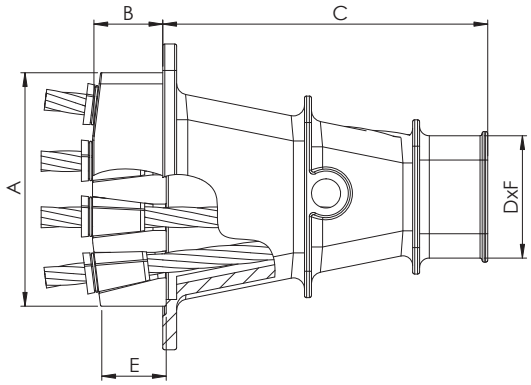
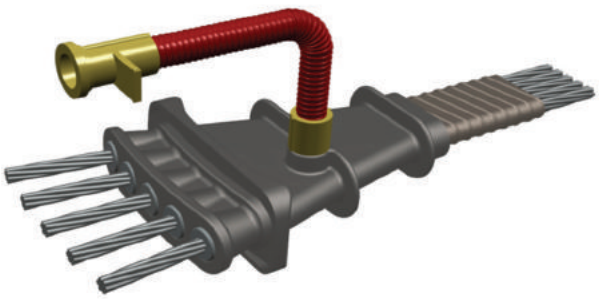
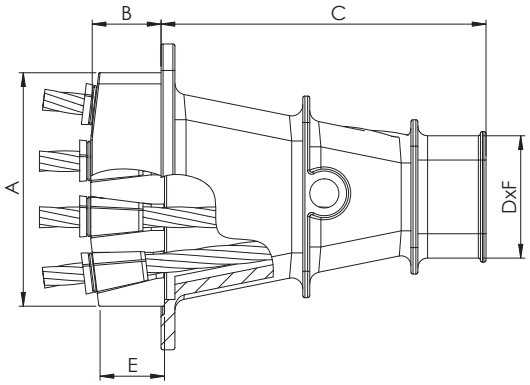
Model No.	Number of Strand	Intended Use	Strand Diameter (mm)
AMS-F2.06	2	Bonded and Unbonded Tendon	15,74
AMS-F3.06	3	Bonded and Unbonded Tendon	15,74
AMS-F4.06	4	Bonded and Unbonded Tendon	15,74
AMS-F5.06	5	Bonded and Unbonded Tendon	15,74



Model No.	A	B	C	DXF	E
	mm	mm	mm	mm	mm
AMS-F2.06	130	55	195	58 x 28	42
AMS-F3.06	130	55	195	58 x 28	42
AMS-F4.06	168	60	234	72 x 28	47
AMS-F5.06	205	60	245	90 x 28	47

Model No.	Number of Strand	Intended Use	Strand Diameter (mm)
AMS-S2.05	2	Bonded and Unbonded Tendon	12,70
AMS-S3.05	3	Bonded and Unbonded Tendon	12,70
AMS-S4.05	4	Bonded and Unbonded Tendon	12,70
AMS-S5.05	5	Bonded and Unbonded Tendon	12,70





Model No.	A	B	C	DXF	E
	mm	mm	mm	mm	mm
AMS-S2.05	96	51	125	48 x 28	52
AMS-S3.05	124	45	152	58 x 28	46
AMS-S4.05	152	49	201	72 x 28	50
AMS-S5.05	184	49	203	80 x 28	50

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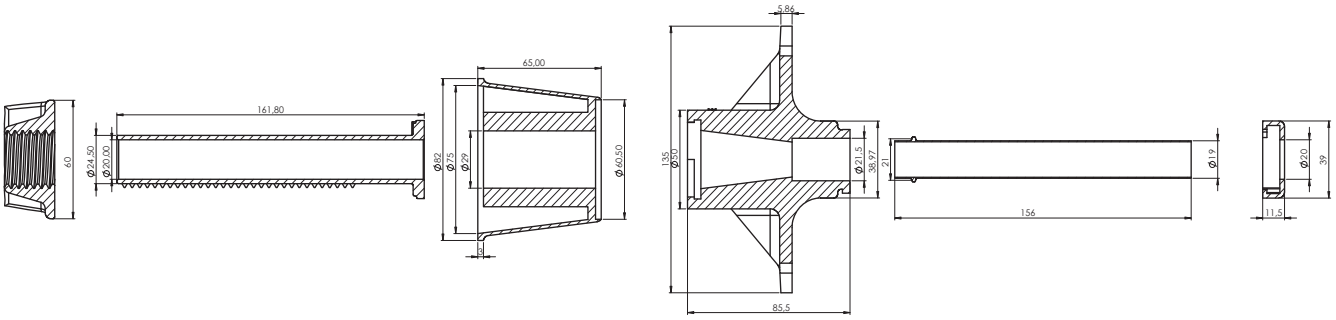
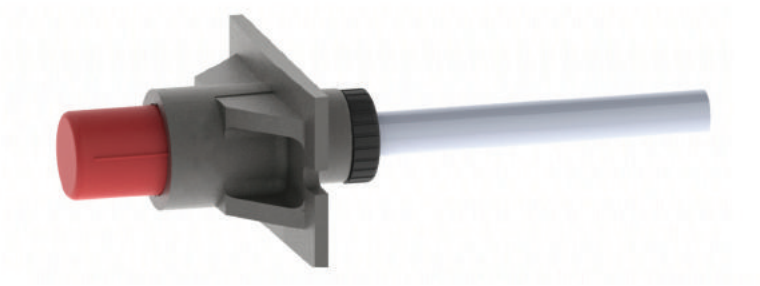
Model No.	Number of Strand	Intended Use	Strand Diameter (mm)
AMS-M1.05062A	1	Unbonded-Active	12,70 - 15,74

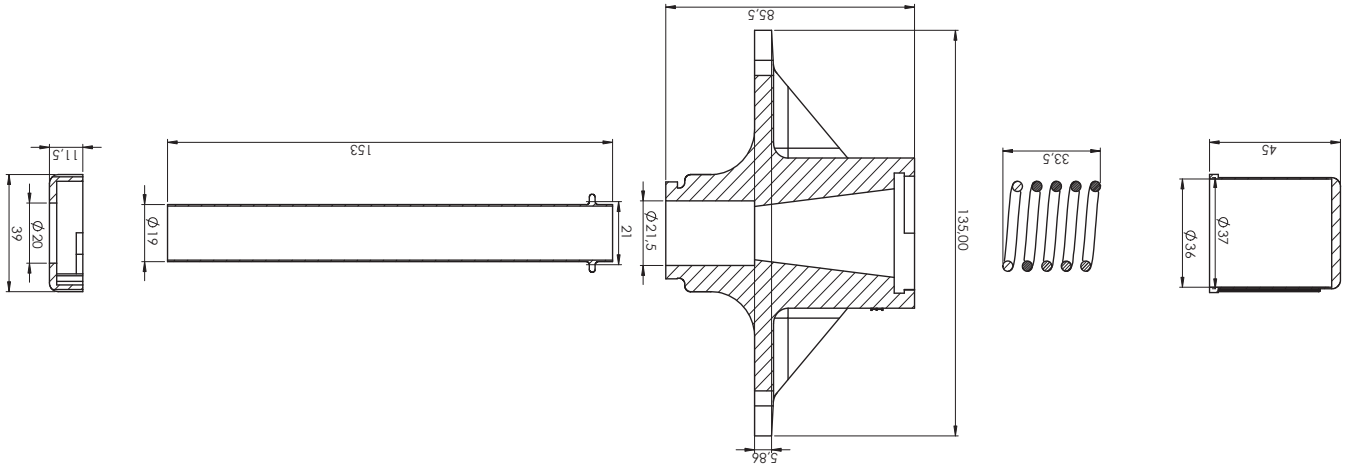
MODEL NO. AMS-M1.05062A
ACTIVE TYPE ANCHOR SYSTEM



Model No.	Number of Strand	Intended Use	Strand Diameter (mm)
AMS-M1.05062P	1	Unbonded-Active	12,70 - 15,74

MODEL NO. AMS-M1.05/062
PASSIVE TYPE ANCHOR SYSTEM





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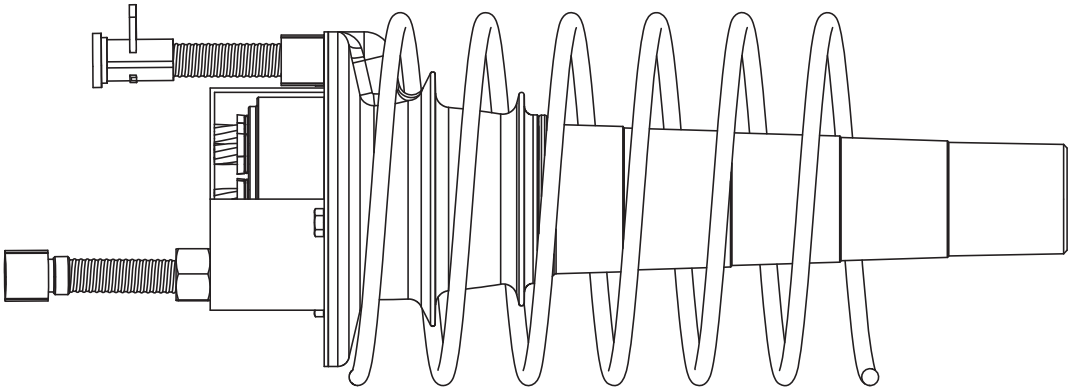
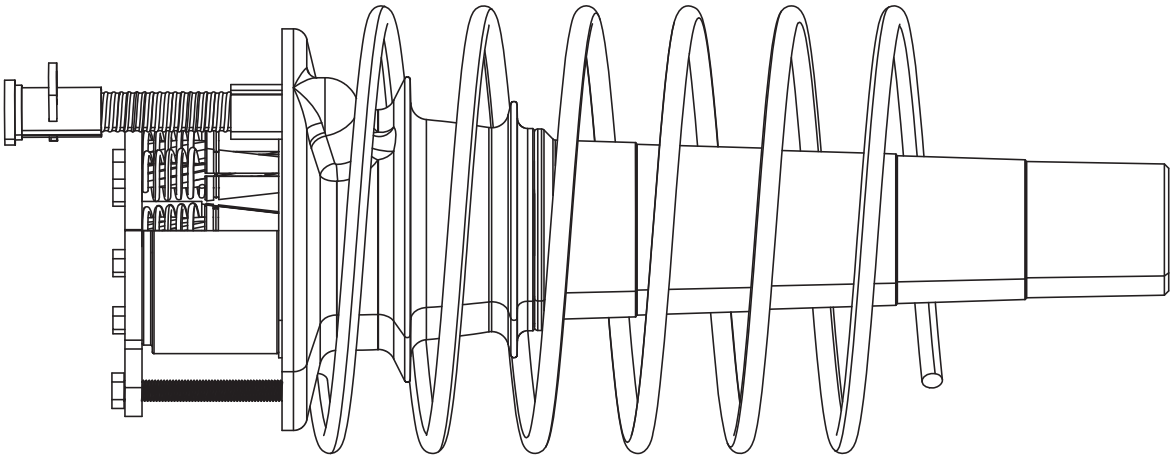
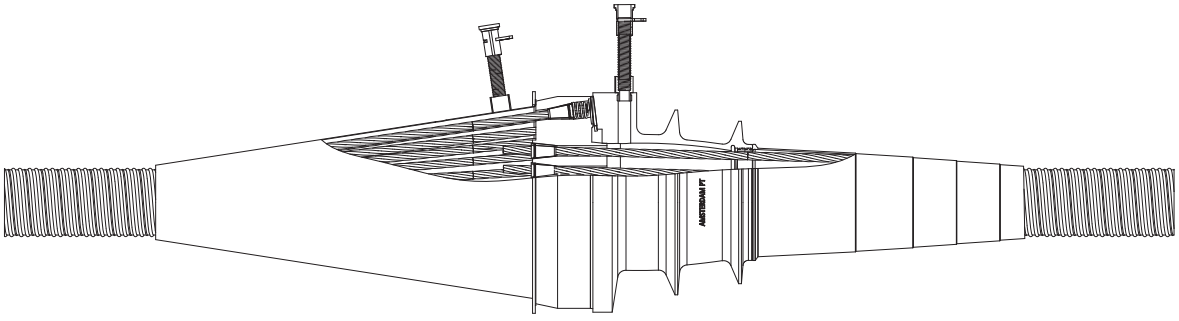
GROUTING OF INTERNAL BONDED MULTI STRAND
ACTIVE ANCHOR SYSTEM



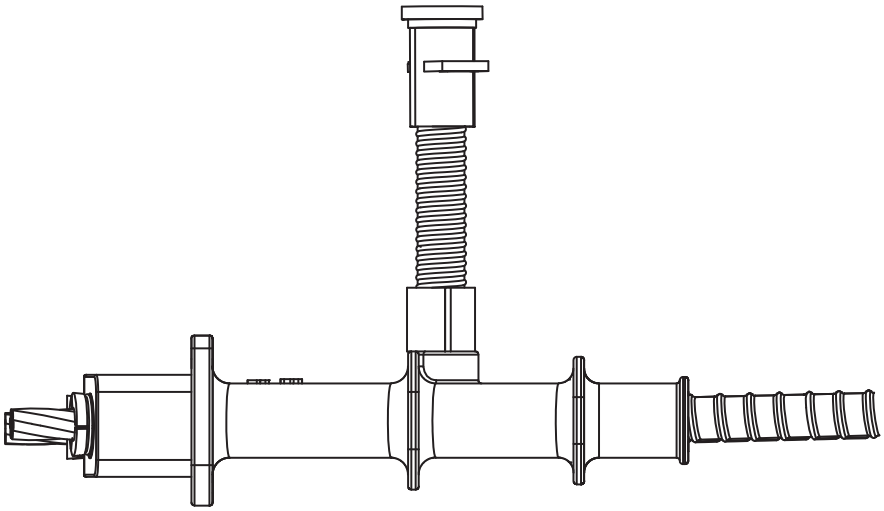
GROUTING OF INTERNAL BONDED MULTI STRAND
PASSIVE ANCHOR SYSTEM



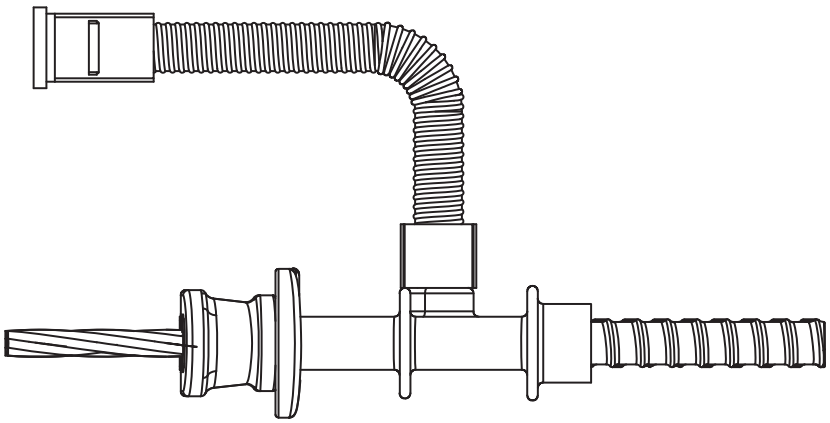
GROUTING OF INTERNAL BONDED MULTI STRAND
COUPLER PT SYSTEM



GROUTING OF INTERNAL BONDED MULTI STRAND
FLAT GROUP PT SYSTEM



GROUTING OF INTERNAL BONDED MULTI STRAND
S GROUP PT SYSTEM



Minimum Edges Distance for 4-31 Strands

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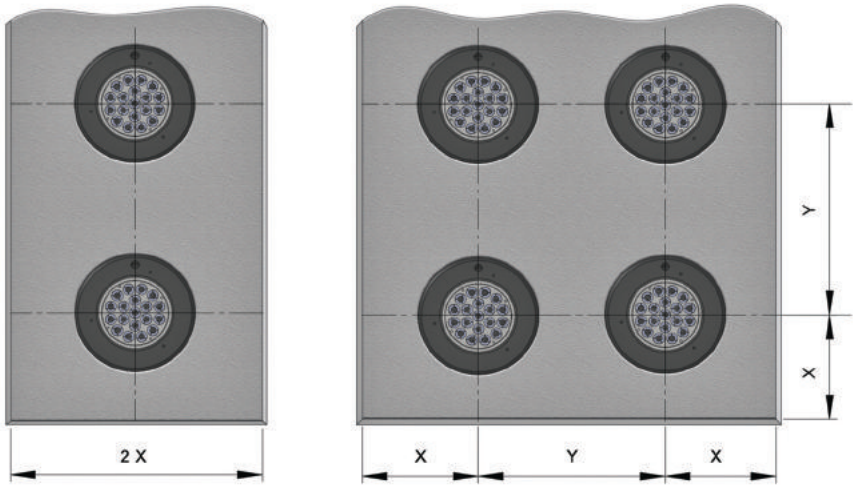
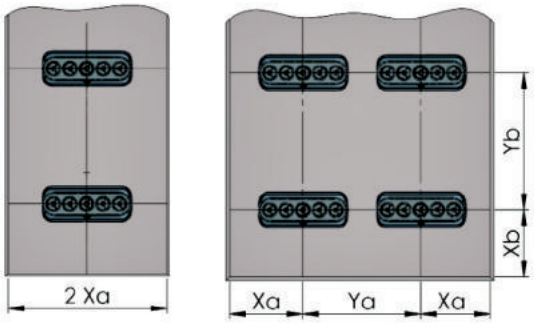


Minimum Centres Spacing Y (mm)			Minimum Edges Distance X (mm)		
Number of Strands	$f_{cmi, cube}$		Number of Strands	$f_{cmi, cube}$	
	35 MPa	45 MPa		35 MPa	45 MPa
4	250	230	4	130	120
7	335	295	7	175	155
9	370	320	9	190	165
12	430	380	12	220	195
15	480	430	15	245	220
19	545	485	19	280	250
22	585	520	22	300	265
27	650	580	27	330	295
31	710	630	31	360	320

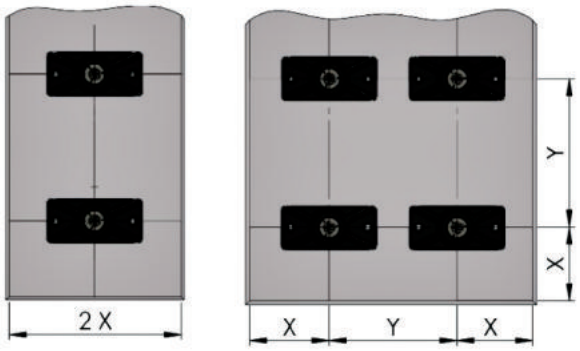


S GROUP PT SYSTEMS

Number of Strands	fcmi, cube (MPa)	Horizontal Distances		Vertical Distances	
		Xa (mm)	Ya (mm)	Xa (mm)	Ya (mm)
2	26	110	220	75	150
3	26	110	220	75	150
4	26	150	300	82,5	165
5	26	185	370	87,5	175

FLAT GROUP PT SYSTEMS

Number of Strands	fcmi, cube (MPa)	Horizontal Distances		Vertical Distances	
		Xa (mm)	Ya (mm)	Xb (mm)	Yb (mm)
2 (05-06)	26	110-110	220-220	75-75	150-150
3 (05-06)	26	110-150	220-300	75-82,5	150-165
4 (05-06)	26	150-185	300-370	82,5-87,5	165-175
5 (05-06)	26	185-225	370-450	87,5-100	175-200



ACTIVE AND PASSIVE TYPE MONO

Number of Strands	fcmi, cube (MPa)	Minimum Edge Distance	Minimum Central Distance
		X (mm)	Y (mm)
1	26	110	220

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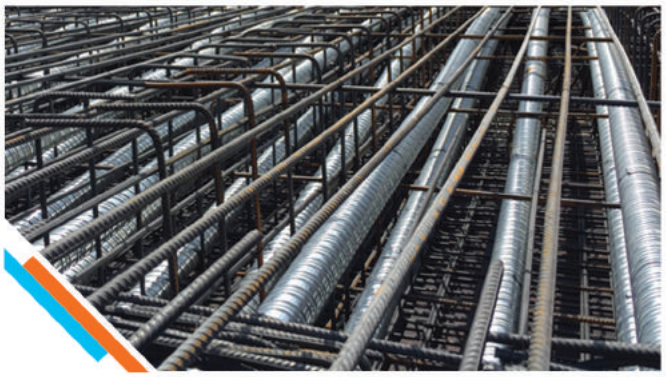
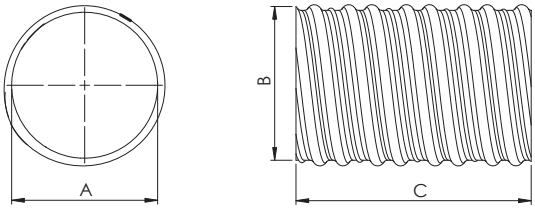
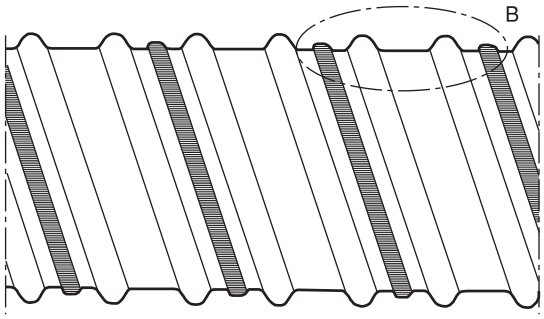




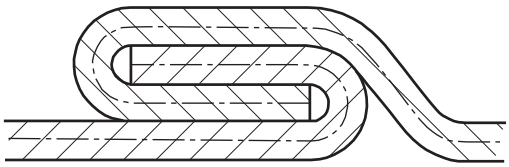
Number of Strands		4	7	9	12	15	19	22	27	31
GALVANIZED CORRUGATED DUCT										
A	Intarnel Dia. Ø(mm)	Ø 45	Ø 55	Ø 70	Ø 80	Ø 90	Ø 95	Ø 110	Ø 115	Ø 120
B	External Dia. Ø(mm)	Ø 50	Ø 60	Ø 75	Ø 85	Ø 95	Ø 100	Ø 115	Ø 120	Ø 125
C	mt	5,70	5,70	5,70	5,70	5,70	5,70	5,70	5,70	5,70
THICKNESS	mm	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40
GALVANIZED CORRUGATED CONNECTOR										
A	Ø(mm)	Ø 50	Ø 60	Ø 75	Ø 85	Ø 95	Ø 100	Ø 115	Ø 120	Ø 125
B	Ø(mm)	Ø 55	Ø 65	Ø 80	Ø 90	Ø 100	Ø 105	Ø 120	Ø 125	Ø 130
C	mm	300	300	300	300	300	300	300	300	300
THICKNESS	mm	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40

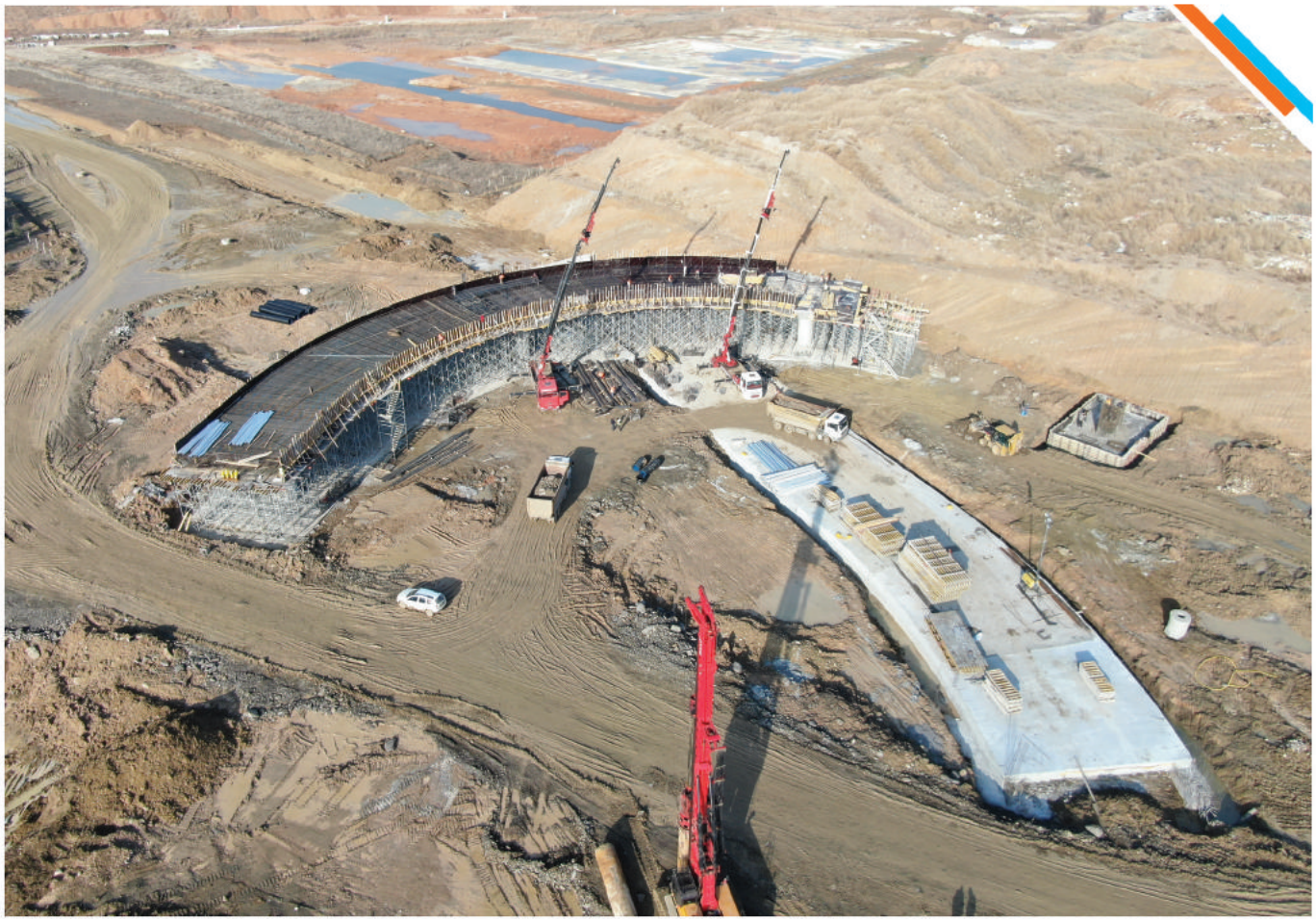
Detail: A



Detail: B

Detail: C





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PP-AC / 2731
Yarım Ay
Bleeding Cover

PP-AC / 1922
Yarım Ay
Bleeding Cover

PP-AC / 1215
Yarım Ay
Bleeding Cover

PP-AC / 0709
Yarım Ay
Bleeding Cover

PP-SV20
Enjeksiyon Valfi
Injection Valve

PP-R20
Enjeksiyon Redüktörü
Injection Reducer

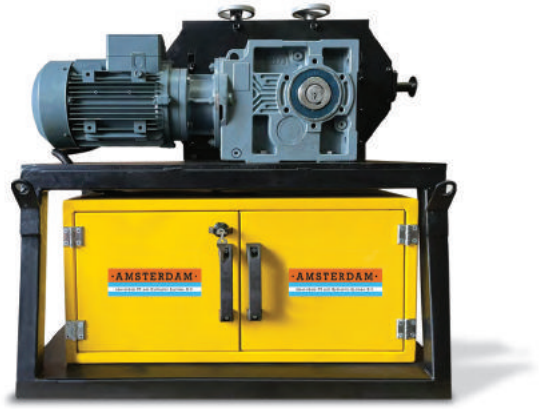
PP-PC
Çelik Halat Fişeği
PC Strand Cartridge

PP-IP20
Enjeksiyon Borusu
Injection Pipe

Injection Pump

Item		Data
Dimensions	cm	300x90x165
Gross Weight	kg	580
Rotor Type	P3	P8
Theoretical Pump Capacity	Lt/min	70
Maximum Output Pressure	bar	40
Out Hose Diameter	inch	1
Max. Send Mess. Vertical	m	80
Max. Send Mess. Horizontal Max.	m	100
Main Engine Power	kw	7,5
Mixer Motor Power	kw	3x2
Voltage / Frequency	v/hz	380/50
Total Consumption	kw	13,5
Rotor Rotation Speed	rpm	407
Mixer Rotation Speed	rpm	55
Boiler Volume	litre	200x2

Strand Pushing Machine



Item	Data
Product	Strand Pushing Machine
Type	Type 2
Model No	SR-HSR.22
Strand Diameter	12,7 mm - 15,75 mm
Motor Power	5.5 kw
Control Type	Remote Control
Motor Specification	380 V.
Reducer Type	5,5 kw - Inverter
System Type	4 x 4 Pulley System
Weight	170 kg

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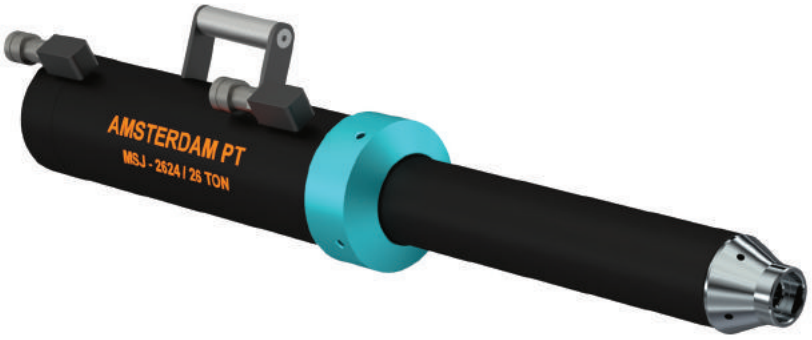
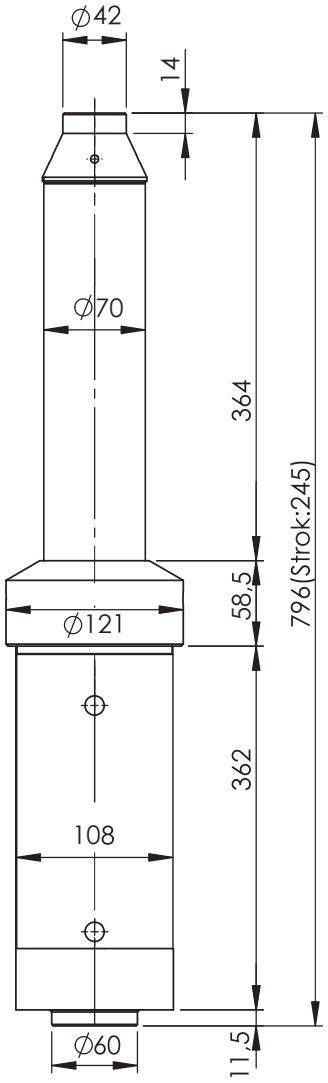
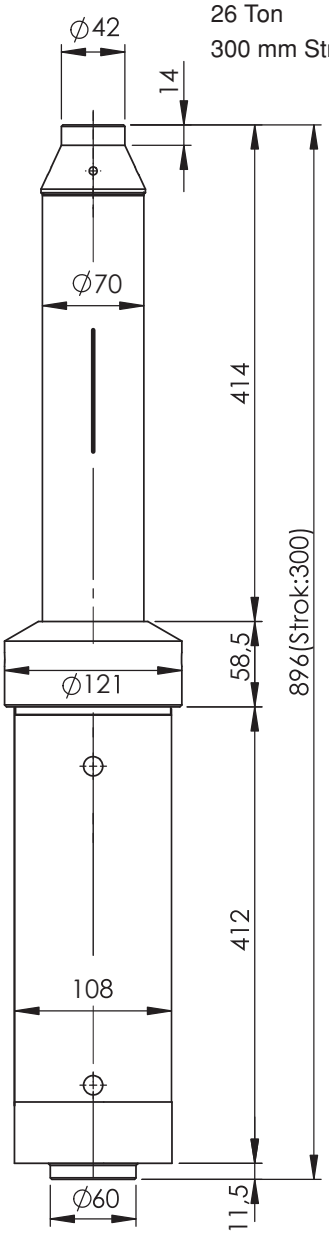


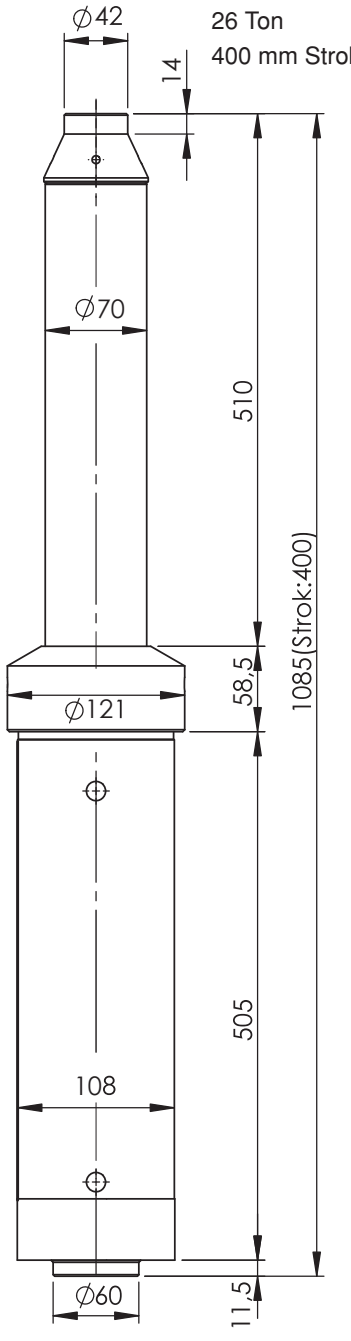
MSJ-2624
26 Ton
245 mm Strok



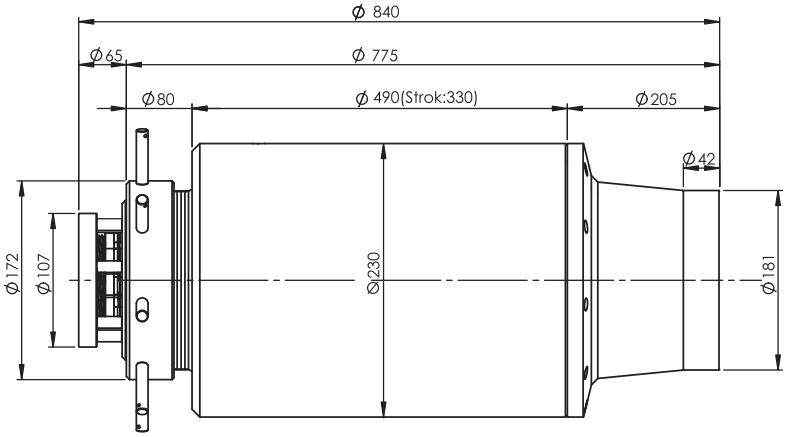
MSJ-2630
26 Ton
300 mm Strok



MSJ-2640
26 Ton
400 mm Strok

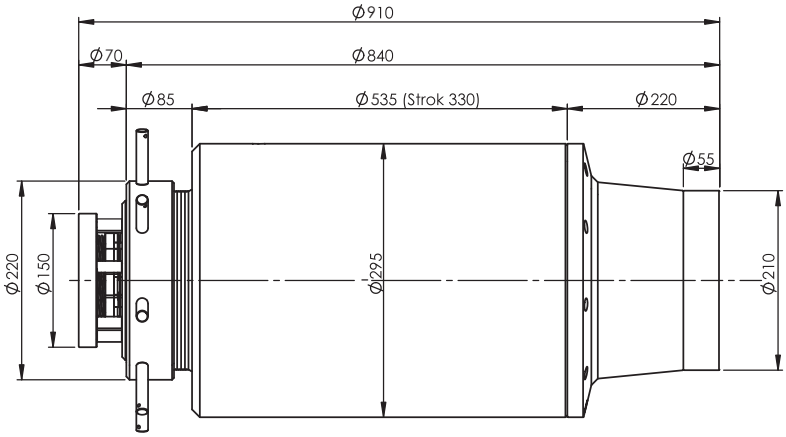


4 STRAND



Model No.	Number of Stressing Strand	Capacity	Strok	Center Hole Diameter	Rod Diameter	Cylinder Inside Diameter	Cylinder Effective Area	Oil Capacity	Locking Capacity	Working Pressure (max.)	Test Pressure	Weight
		Ton	mm	mm	mm	mm	cm^2	cm^3	Ton	Bar	Bar	Kg
SJM 11033	0,6" 0,62" 4 Strand	110	330	92	145	180	159,45	2.313	5	700	800	147

7 STRAND



Model No.	Number of Stressing Strand	Capacity	Strok	Center Hole Diameter	Rod Diameter	Cylinder Inside Diameter	Cylinder Effective Area	Oil Capacity	Locking Capacity	Working Pressure (max.)	Test Pressure	Weight
		Ton	mm	mm	mm	mm	cm^2	cm^3	Ton	Bar	Bar	Kg
SJM 17533	0,6" 0,62" 7 Strand	175	330	117	190	230	250,24	8.261	8	700	800	160

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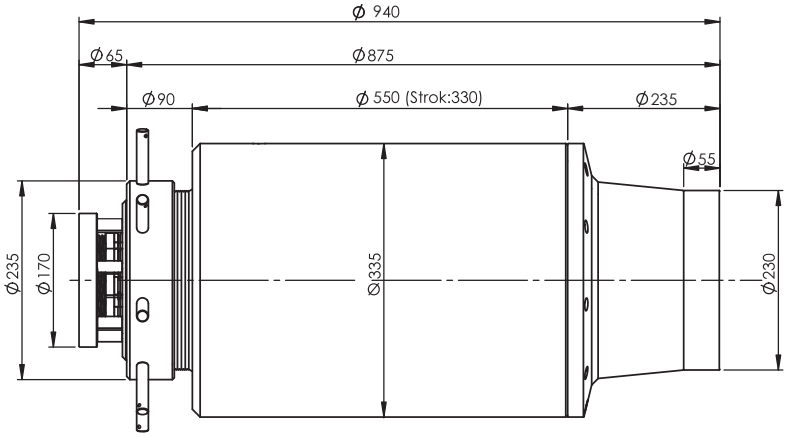
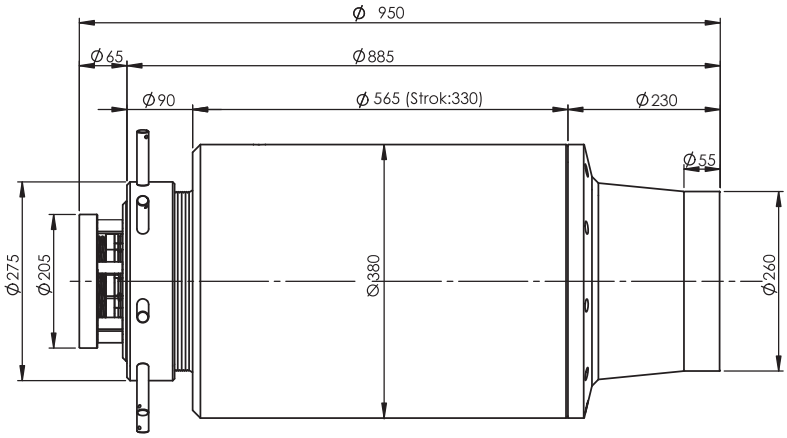
9 STRAND



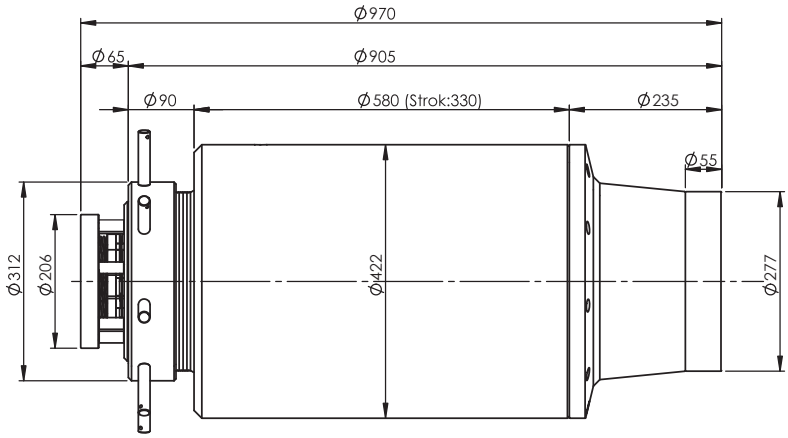
Model No.	Number of Stressing Strand	Capacity	Strok	Center Hole Diameter	Rod Diameter	Cylinder Inside Diameter	Cylinder Effective Area	Oil Capacity	Locking Capacity	Working Pressure (max.)	Test Pressure	Weight
		Ton	mm	mm	mm	mm	cm^2	cm^3	Ton	Bar	Bar	Kg
SJM 23533	0,6" 0,62" 9 Strand	235	330	137	212	265	337,72	11.144	18	700	800	306

12 STRAND



Model No.	Number of Stressing Strand	Capacity	Strok	Center Hole Diameter	Rod Diameter	Cylinder Inside Diameter	Cylinder Effective Area	Oil Capacity	Locking Capacity	Working Pressure (max.)	Test Pressure	Weight
		Ton	mm	mm	mm	mm	cm^2	cm^3	Ton	Bar	Bar	Kg
SJM 31533	0,6" 0,62" 12 Strand	315	330	160	250	305	447,05	14.753	12	700	800	289

15 STRAND



Model No.	Number of Stressing Strand	Capacity	Strok	Center Hole Diameter	Rod Diameter	Cylinder Inside Diameter	Cylinder Effective Area	Oil Capacity	Locking Capacity	Working Pressure (max.)	Test Pressure	Weight
		Ton	mm	mm	mm	mm	cm^2	cm^3	Ton	Bar	Bar	Kg
SJM 38833	0,6" 0,62" 15 Strand	388	330	180	280	340	554,9	18.313	15	700	800	282

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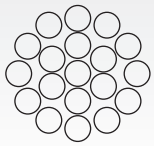
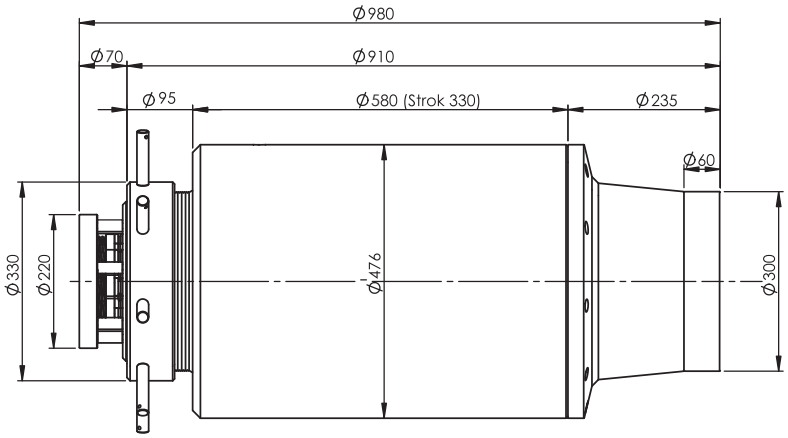
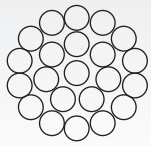
19 STRAND

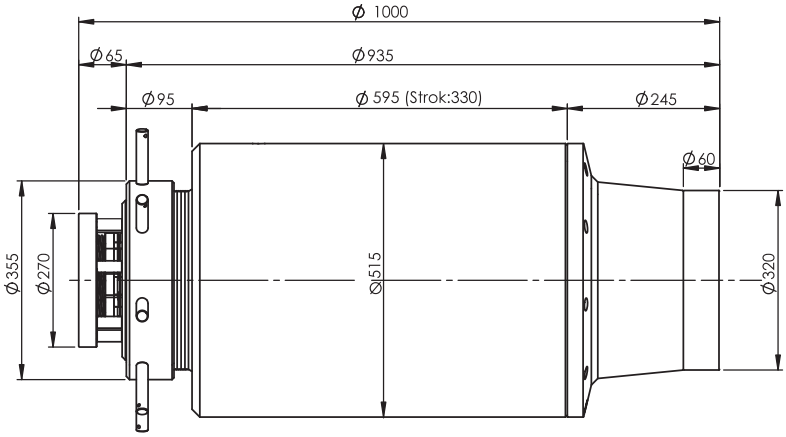




Model No.	Number of Stressing Strand	Capacity	Strok	Center Hole Diameter	Rod Diameter	Cylinder Inside Diameter	Cylinder Effective Area	Oil Capacity	Locking Capacity	Working Pressure (max.)	Test Pressure	Weight
		Ton	mm	mm	mm	mm	cm^2	cm^3	Ton	Bar	Bar	Kg
SJM 49533	0,6" 0,62" 19 Strand	495	330	190	300	375	706,85	23.326	18	700	800	644

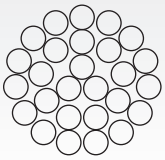
22 STRAND

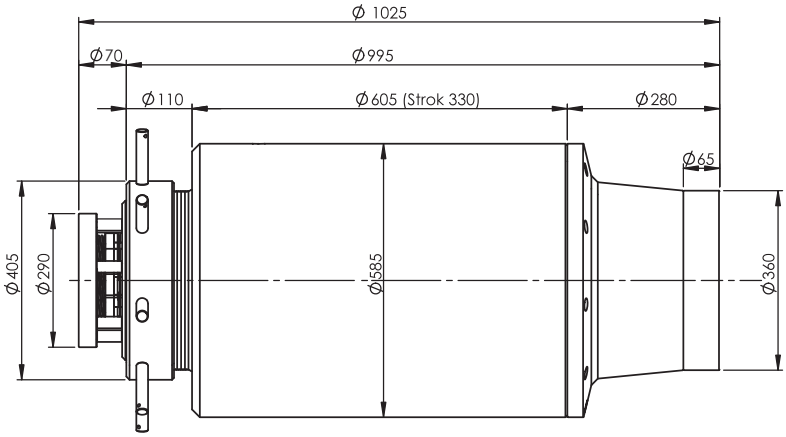




Model No.	Number of Stressing Strand	Capacity	Strok	Center Hole Diameter	Rod Diameter	Cylinder Inside Diameter	Cylinder Effective Area	Oil Capacity	Locking Capacity	Working Pressure (max.)	Test Pressure	Weight
		Ton	mm	mm	mm	mm	cm^2	cm^3	Ton	Bar	Bar	Kg
SJM 58033	0,6" 0,62" 22 Strand	580	330	216	330	410	829,38	27.370	22	700	800	698

27 STRAND





Model No.	Number of Stressing Strand	Capacity	Strok	Center Hole Diameter	Rod Diameter	Cylinder Inside Diameter	Cylinder Effective Area	Oil Capacity	Locking Capacity	Working Pressure (max.)	Test Pressure	Weight
		Ton	mm	mm	mm	mm	cm^2	cm^3	Ton	Bar	Bar	Kg
SJM 68033	0,6" 0,62" 27 Strand	680	330	255	375	460	978,4	13.893	28	700	800	1045

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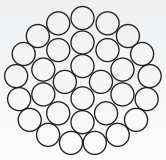
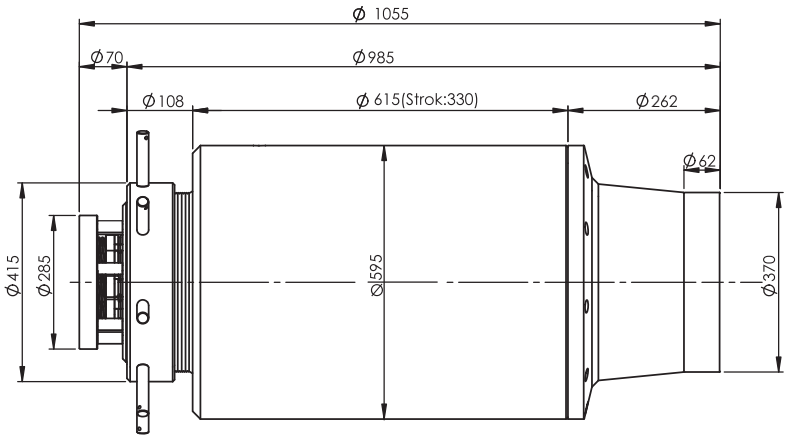
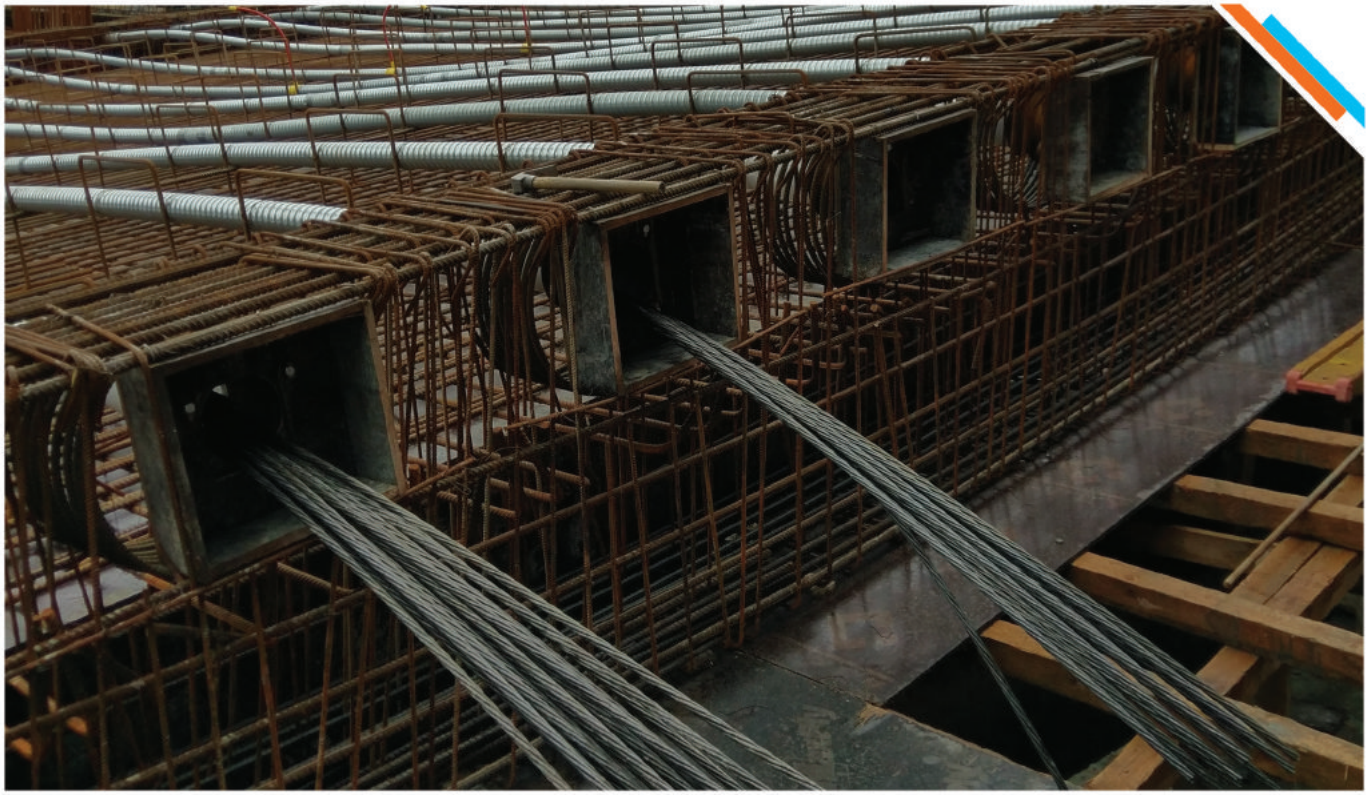
31
STRAND

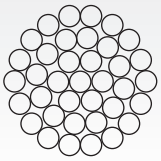


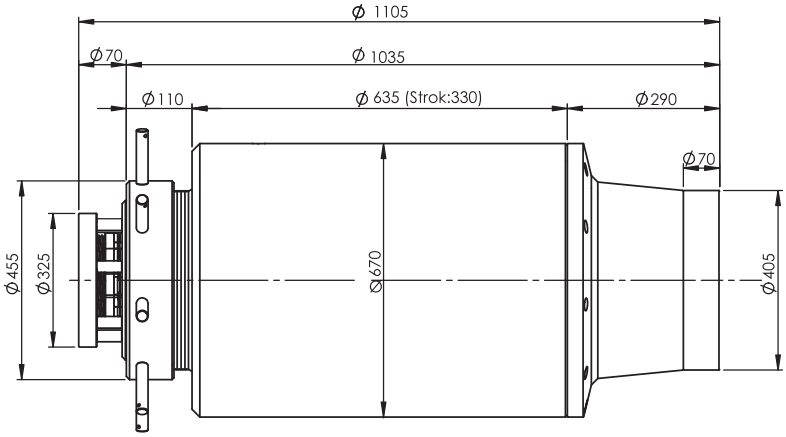


Model No.	Number of Stressing Strand	Capacity	Strok	Center Hole Diameter	Rod Diameter	Cylinder Inside Diameter	Cylinder Effective Area	Oil Capacity	Locking Capacity	Working Pressure (max.)	Test Pressure	Weight
		Ton	mm	mm	mm	mm	cm^2	cm^3	Ton	Bar	Bar	Kg
SJM 80533	0,6" 0,62" 31 Strand	805	330	252	390	480	1149,03	37.918	31	700	800	988



37 STRAND





Model No.	Number of Stressing Strand	Capacity	Strok	Center Hole Diameter	Rod Diameter	Cylinder Inside Diameter	Cylinder Effective Area	Oil Capacity	Locking Capacity	Working Pressure (max.)	Test Pressure	Weight
		Ton	mm	mm	mm	mm	cm^2	cm^3	Ton	Bar	Bar	Kg
SJM 97533	0,6" 0,62" 37 Strand	975	330	285	430	535	1392,7	19.699	40	700	800	1395

CE ETA ETA 22/0572
EAD 160004-00-0301

Model No.	Pressure Range	Scale Diameter	Oil Port	Description
	mm	mm		
G-637D	0-700	63	1/4"	Glycerine filled. 0-700 bar calibrated scale 700-1000 bar as a danger zone. 50 bar increment.
G-1007D		100		
G-1007				Glycerine filled.0-700 bar calibrated scale 10 bar increment.
GD-1		63		Digital gauge

Model No.			Description
Complate Set	Famale	Male	
C-209	C-211	C-213	Coupler 3/8" NPT threads max. flow capacity 35 l/min
CT-200	CT-202	CT-201	Coupler 1/4" NPT threads max. flow capacity 8 l/min

Model No.	Hose Length	Hose End	Hose End	Internal Diameter	Max. Working Pressure
	mm			mm	bar
HS-2201	1			6,40	700
HS-2202	2				
HS-2203	3				
HS-2204	4				
HS-2206	6				
HS-2208	8	3/8" NPT male	3/8" NPT male		
HS-2210	10				
HS-2212	12				
HS-2215	15				
HSC-2201	1			6,40	700
HSC-2202	2				
HSC-2203	3				
HSC-2204	4				
HSC-2206	6				
HSC-2208	8	3/8" NPT male	C-213 male coupler		
HSC-2210	10				
HSC-2212	12				
HSC-2215	15				

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