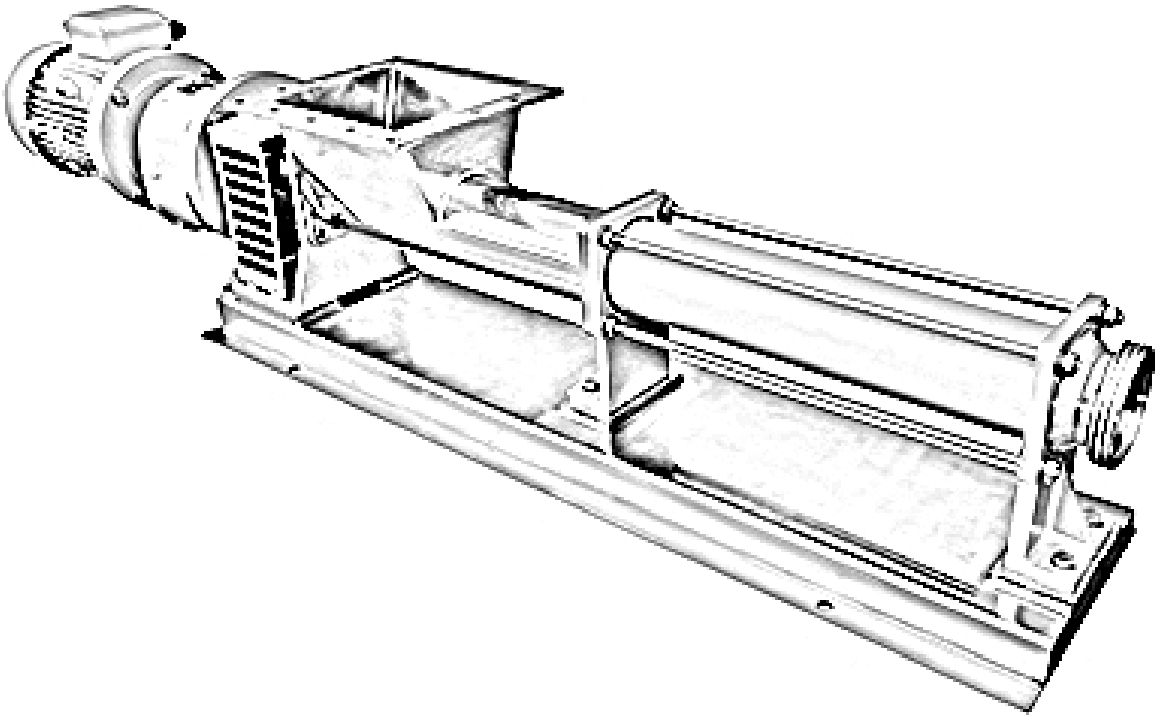
ATLAS

Progressive Cavity Pump

WSM-WCM SERIES



AlphaDynamic PUMPS

We Make The Difference

CE EAC

Industrial Park of Kifisia - HELLAS

www.alphadynamic.eu

INDEX

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We Make The Difference

ATLAS
Progressive Cavity Pump

CE

Declaration of Conformity

in compliance with the Machinery Directive 2006/42/EC

We hereby declare, that the pump units manufactured in series production

Designation: ATLAS PROGRESSIVE CAVITY PUMP

Series : ATLAS HBM / SBM / CBM / WCM / WSM

Manufactured By : AlphaDynamic PUMPS

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in the version delivered by us, are in compliance with the following applicable regulations:

EC Machinery Directive: 2006/42/EC

Harmonized standards: EN 809:1998+A1:2009 , DIN EN 60204-1:2006
EN ISO 12100:2010 , EN 13857:2008
EN 953:1997+A1:2009

Signature of authorized person

Date : 31/10/2019

Printed name of authorized person : Ing . Nikolaos Prodromidis

Title : Technical Manager

1. Safety

1.1. Instructions Manual

This manual contains information about the receipt, installation, operation, assembly, disassembly and maintenance of the ATLAS WSM/WCM pump. The information published in the instruction manual is based on updated information.

1.2. Startup Instructions

This Instructions Manual contains essential and useful information for properly operating and maintaining your pump. Read these instructions carefully before starting up the pump; become familiar with the operation and use of your pump and follow the instructions closely. These instructions should be kept in a safe location near the installation.

1.3. Warning Symbols

Danger for persons in general

Electrical danger

Danger! Suspended load

Commitment to safety at the workplace

Danger of injury by rotating equipment parts

Danger! Caustic or corrosive agents

Danger to the correct operation of the equipment

Protective goggles requirement.

1.4. General safety instruction

Read this Instruction Manual carefully before installing the pump and starting it up.

1.4.1. During Installation

Never start up the pump before it has been connected to the tubing.

During the installation, all the electric work should be carried out by authorised personnel.

1.4.2. During Operation

NEVER touch the pump or the tubes during operation when the pump is being used to decant hot fluids or when it is being cleaned.

The pump contains moving parts. Never place your fingers inside the pump while the pump is in operation.

NEVER operate the pump with the suction and delivery valves closed.

NEVER spray the electrical motor directly with water. The protection standard for the motor is IP-55: Protection against dust and sprayed water.

1.4.3. During maintenance

NEVER dismantle the pump before the tubes have been emptied. Remember that some of the fluid will always remain in the pump housing (when no drainage is provided. Note that the pumped fluid may be dangerous or very hot. Consult the regulations in effect in each country for these cases.

Do not leave parts loose on the floor.

ALWAYS disconnect the pump from the power supply before starting maintenance work.
Remove the fuses and disconnect the cables from the motor terminals.
All electrical work should be carried out by authorised personnel.

1.4.4. Compliance with the instructions

Any non-fulfilment of the instructions may result in a risk for the operators, the environment and the machine, and may result in the loss of your right to claim damages.

This non-fulfilment may result in the following risks:

- Failure of important functions of the machines/ plant.
- Failure of specific maintenance and repair procedures.
- Possibility of electric, mechanical, and chemical risks.
- Will place the environment in danger due to the release of substances**.**

1.4.5. Guarantee

Any warranty provided shall immediately be cancelled and void ipso jure, and ATLAS WSM/WCM PUMPS shall be compensated for any product liability claim from third parties, if:

- the service and maintenance work were not carried out in accordance with the service
- instructions, or the repair work has not been carried out by our personnel or it has been conducted without our written authorization;
- our equipment has been changed without prior written authorization;
- the materials were used incorrectly or negligently, or not in accordance with these instructions and their intended use;
- pump parts were damaged by excessive pressure owing to the lack of a safety valve**.**

No change can be made to the equipment without prior discussion with the manufacturer. For your safety, please use original spare parts and accessories. The use of other parts will exempt the manufacturer from any liability.

2. General Information

2.1 System Design

At the system design stage, consideration must be given for the provision of filler plug and installation of non-return and *t* or isolating valves. ATLAS WSM/WCM PUMPS are normally installed in a horizontal position with base plates mounted on a flat surface, grouted in and bolted, thus ensuring firm fixing thereby reducing noise and vibration. If the pump is to be mounted in any other way. installation must be confirmed with AlphaDynamic SA

2.2 Electrical

1. Electrical connection should only made using equipment suitable for both rating and environment. Normally the pump should be installed with starting equipment arranged to give direct online starting to ensure maximum starting torque. When the motor is not being wired and checked for direction of rotation, ensure that the motor is not coupled with pump. **Make sure that the pump is full of liquid**. If any warning or control device is to be fitted on the electrical equipment it must be set in accordance with their specific instruction.

2. Protection of all electrical equipment should be ensured for minimum safety requirements as per environment and fluid being pumped in accordance with safety rules.

3. Earthing points of electrical equipment should be connected when the pump is fitted with electrical drives and it is essential that these were properly connected as per the electrical equipment manufacture's catalogue.

3. Installation

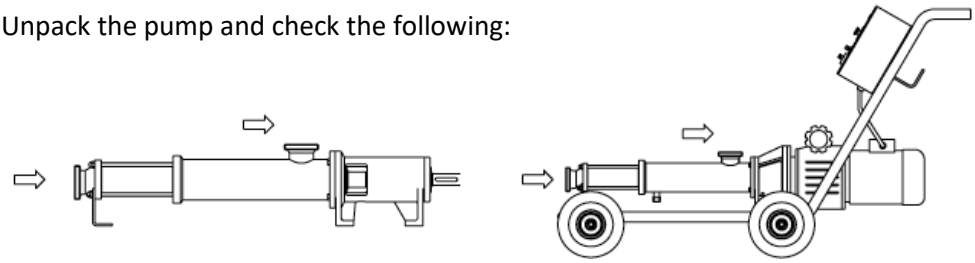
3.1. Pump Receipt

AlphaDynamic Pumps SA cannot be held responsible for any damage to the equipment during transport or unpacking. Visually check that the packaging is not damaged.

The pump will be accompanied by the following documents:

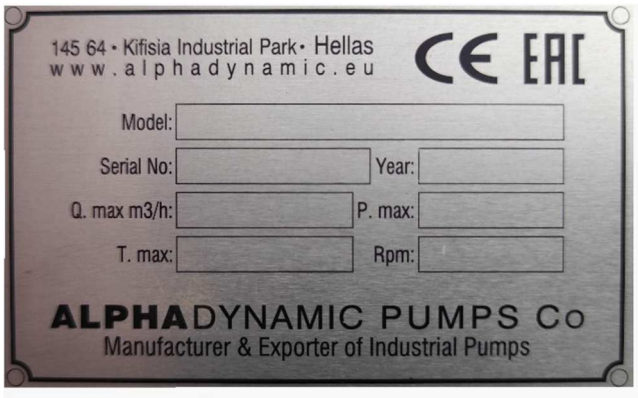
- Pump instructions and service manual

Unpack the pump and check the following:



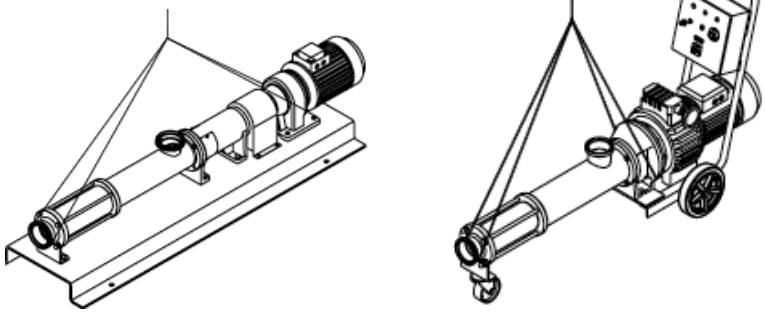
- The suction and discharge connections of the pump removing any rest of packaging materials.
- The pump and the motor are not damaged.
- Check that the pump and the motor have not suffered any damage.
- If the equipment is not in good condition and/or any part is missing, the carrier should draw up a report accordingly as soon as possible.

3.1.1 Pump Identification



3.2 Transport and Storage

ATLAS WSM/WCM pumps are too heavy to be stored manually.



3.3. Location

Place the pump as close as possible to the suction tank, and if possible, below the fluid level. Place the pump to allow sufficient space around it to access the pump and the motor. (See chapter *Technical specifications f o r* dimensions).

Set up the pump on a flat, level surface.

Install the pump to allow sufficient ventilation. If the pump is installed outdoors, it should be protected by a roof. Its location should enable easy access for any inspection or maintenance operations.

3.4. Pipes

As a general rule, fit the suction and discharge pipes in straight sections with the least possible number of bends and accessories to reduce as much as possible any loss of load caused by friction. Make sure that the nozzles of the pump are properly aligned to the pipe and their diameter is similar to that of the pump connections. Place the pump as close as possible to the suction tank, if possible, below the fluid level, or even below the tank, so that the manometric head of the static suction is highest. Place pipe supports as close as possible to the suction and discharge nozzles of the pump.

3.5. Cut-off Values

The pump can be isolated for maintenance purposes. To this end, shut-off valves should be fitted to the pump's. suction and delivery connections.

These valves should **ALWAYS** be open when the pump is operating.

3.6. Electrical Installation

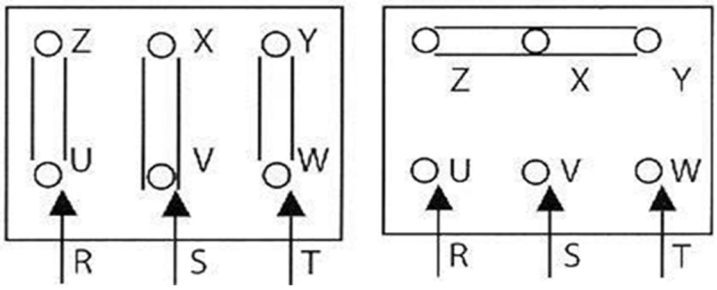
The connection of the electrical motors must be performed by qualified personnel.

Take all necessary measures to prevent damage to connections and cables.

The electrical equipment terminals and components of the control systems may still contain electric current when switched off. Contact with them may be dangerous for operators or cause irreversible damage to the equipment.

Before opening the pump, make sure that the electrical circuit is switched off.

Connect the motor following the manufacturer's instructions.



Power Supply **Power Supply**

3.7 Mechanical Seal

When the pump is supplied with mechanical seal it may be necessary to ensure proper flushing, quenching arrangement as per the seal manufacturer's recommendation.

3.8 Dry Running

Pump must be filled with liquid before starting (A threaded plug has been provided on top of the pump housing for this purpose). The initial filling is not for priming purpose, but to provide the necessary lubrication of the stator until the pump primes itself. When the pump is stopped, sufficient liquid is normally trapped between the pump elements to provide the necessary lubrication for restarting. If, however, the pump has been left standing for an appreciable time or has been dismantled, it must be filled with liquid and given a few turns before starting to get sufficient lubrication between rotor and the stator.

NEVER RUN THE PUMP IN A DRY CONDITION EVEN FOR A FEW ROTATIONS OR THE STATOR WILL GET DAMAGED IMMEDIATELY.

4. Start Up

4.1. Checks before starting up the pump.

- Fully open the shut-off valves on the suction and delivery pipes.
- If the fluid does not flow into the pump, prime the pump with fluid to be pumped.

The pump must NEVER be run dry.

4.2. Checks when starting up the pump.

• Check that the pump is not making any unusual noises.

• Check whether the absolute inlet pressure is enough to avoid cavitation in the pump.

• Check the flow pressure.

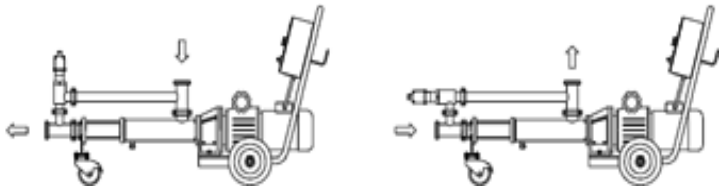
Check that there are no leaks through the sealed areas.

A cut-off valve on the suction pipe must not be used to regulate flow. Shut-off valves must be fully open during operation.

Check the motor's power consumption to avoid electric overload.

4.3. By-Pass Connection

If the pump has an incorporated pressure by-pass, the rotation can be only one direction. To invert the direction of rotation, mount an overflow valve as indicated the next figure. The single pump has the overflow valve calibrated at 6 bar.



5. Troubleshooting

The following table provides solutions to problems that might arise during pump operation. The pump is assumed to have been properly installed and correctly selected for the application. Please contact the manufacturer or distributor if you require technical assistance.

Operation problems	Probable causes
Motor overload	8,9,13,19
The pump does not provide enough flow of pressure	1,2,4,5,7,9,10,16,17,18
No pressure on the discharge side	2,3,6,17
Uneven discharge flow pressure	1,2,4,5,6,9,20
Noise and vibration	2,4,5,6,7,8,9,10,13,14,18,19
The pump gets clogged	9,10,14,19
Overheated pump	8,9,10,14,19
Excessive wear	4,5,10,14,18
The mechanical seal leaks	11,12,15

No	Probable causes	Solutions
1	Wrong direction of rotation	Reverse the direction of rotation
2	NPSH is not high enough	Increase the available NPSH
		• Place the suction tank higher
		• Place the pump lower
		• Reduce steam pressure
		• Increase the diameter of the suction pipe
		• Shorten and simplify the suction pipe
3	Pump not drained	Drain or fill
4	Cavitation	Increase suction pressure (see also 2)
5	Air is suctioned by the pump	Check the suction pipe and all its connections
6	Clogged suction pipe	Check the suction pipe and all its filters if any
7	Discharge pressure too high	If necessary, reduce load losses, e.g., by increasing the diameter of the pipe
8	Flow too high	Reduce speed
9	Fluid viscosity too high	Reduce the viscosity e.g., by heating the fluid
10	Fluid temperature too high	Reduce the temperature by cooling the fluid
11	Mechanical seal damaged or worn out	Replace the seal
12	O-rings unsuitable for the fluid	Fit suitable orings

No	Probable causes	Solutions
13	Stressed pipes	Connect the pipes to the pump to avoid stress and align the coupling
14	Foreign matter in the fluid	Fit a filter to suction pump
15	The mechanical seal tension is too low	Adjust according to the instructions of this manual
16	Pump speed too low	Increase speed
17	Pump too small	Choose a larger pump size
18	The stator is worn out or hase operated in vacuum	Replace the stator
19	Pump and /or motor not attached to the bedplate	Attach the pump and/or motor and check whether the pipes are connected without stress
20	Flow reduction	Replace the worn stator

If the problems persist, stop using the pump immediately. Contact the pump manufacturer or their representative.

6. Maintenance

6.1. General Information

Like any other machine, this pump requires maintenance. The instructions contained in this manual cover the identification and replacement of spare parts. The instructions have been prepared for maintenance personnel and for those responsible for the supply of spare parts.

All replaced material should be duly eliminated/recycled accord in ρ to the directives in effect in the area.

ALWAYS disconnect the pump from the power supply before undertaking maintenance work.

6.2. Storage

The pump must be completely emptied of fluid before storage, If possible, avoid exposing the components of the pump to excessively damp environments.

6.3. Cleaning

Manual cleaning

The use of aggressive cleaning products such as caustic soda and nitric acid may give rise to skin burns. Use rubber gloves during the cleaning process.

Always use protective goggles.

6.3.1 Automatic CIP (cleaning-in-place)

If the pump is installed in a system fitted with a CIP process, there will be no need for stripping. The recommended minimum liquid speed for an effective process of cleaning is 1,8 m/s (minimum Re > 100000 at 1,0-2,5 bar). If it is not fitted with an automatic cleaning process, strip the pump pursuant to the instructions given in the section entitled Stripping and Assembly of the pump.

Cleaning solutions for CIP processes

Only use clear water (chloride free) to mix with cleaning agents:

a) Alkaline solution 1% in weight of caustic soda (NaOH) to 70C
   1 kg NaOH +100 water-cleaning solution
   2.2 lt NaOH al 33% or +100 lt of water = cleaning solution

b) acid solution 0.5% in weight of nitric acid (HNO3) to 70C
   0.7 litters HNO3 to 53% +100 water = cleaning solution

Monitor the concentration of cleaning solutions, it could give rise to the deterioration of the pump sealing gaskets.

To remove any remains of cleaning products, ALWAYS rinse the element in question with clean water after completing the cleaning process.

6.3.2. Automatic SIP [sterilization-in-place)

The process of sterilization with steam is applied to all the equipment including the pump.

Do NOT start the pump during the process of sterilization with steam. The parts/materials suffer no damage if the indications specified in this manual are observed.

No cold liquid can enter the pump till the temperature of the pump is lower than 60°C (140°F).

A flow by-pass is recommended to be used to assure the flow of sterile product after the pump.

Maximum conditions during the SIP process with steam or overheated water

a. **Max temperature: 140°C**
b. **Max time: 30 min**
c. **Colling: sterile air inert gas**

For CIP and SIP process, the pump must be stopped and must have a third connection to be put in a cleaning unit.

6.4 Dismantling / Assembly

Before Dismantling, Isolate Electrical Circuits; Close Isolation Valve on The Suction and Discharge to The Pumps for Prevention of Liquid Escaping Form the Pipeline System.

6.4.1 Stator Removal

Remove the pump from its base. Unscrew the front nuts (24) and remove the front washers (25). Remove the front-end support (13) and the end cover flange (1). Unscrew the three back nuts (24) and remove the washers (25) (we leave one nut screwed). Remove the three tie rods (14). Hold the stub shaft (16) steady and rotate the stator leftwards pulling it out.

6.4.2 Mechanical Seal Removal

Remove the shaft pin (23). Pull out and remove the gear motor (together with the motor or after it has been removed from the motor). Untie the nuts (24) that connect the bracket (21) with the pump housing (10) and remove the washers (25). Pull back the bracket (21). Pull back carefully the seal housing (17) of the fixed part of the mechanical seal (19). Remove the fixed part of the mechanical seal (19) from the seal housing (17). Remove the rotating part of the mechanical seal (19) from the stub shaft (16).

6.4.3 Rotor Removal

Following the above-mentioned steps, slip out the stub shaft (16), the coupling rod (5) and the rotor (3). Untie the joint of coupling rod (5) / rotor (3) pulling out the pin retainer (11) and removing the coupling rod pin (4). Pull out the rotor (3).

6.4.4 Pump Housing Removal

After you have removed the stator (2), unscrew the nuts (24) and the washers (25) front and back and push the pump housing forward.

6.4.5 Stator Installation

After you have removed the old stator and always holding the stub shaft (16) steady, install the new stator by rotating it right wards and pushing it inwards. It is necessary that you have previously applied grease. Screw the three tie rods (14) that have been removed. Fit the end cover flange (1) and the end support (13) and screw the nuts (24) and washers (25).

6.4.6 Pump Housing Installation

Before you install the stator (2), fit the pump housing (10), connect it to the bracket (21) and screw the nuts (24) and the washers (25).

6.4.7 Rotor Installation

After you have removed the old rotor, install the new one and close the joint by fitting the coupling rod pin (4) and pushing the pin retainer (11) to its place. Follow in reverse the whole pump assembly steps.

6.4.8 Mechanical Seal Installation

After the old mechanical seal is removed, install the rotating part of the new mechanical seal (19) on the stub shaft (16) and the stable part of it (19) on the seal housing (17). Fit the seal housing (17) on the bracket (21) and install all together on the pump housing (10). Screw the nuts (24) and the washers (25). Fit the protection cover (20), then install the motor and the gear motor on the bracket (21) and fit the shaft pin (23)

DURING REPAIRS, ALL PARTS THAT HAVE BEEN REMOVED AND ARE TO BE REPLACED MUST BE THOROUGHLY CLEANED. WORN SPARE PARTS SHOULD BE REPLACED WITH GENUINE SPARE PARTS OF AlphaDynamic Pumps SA.

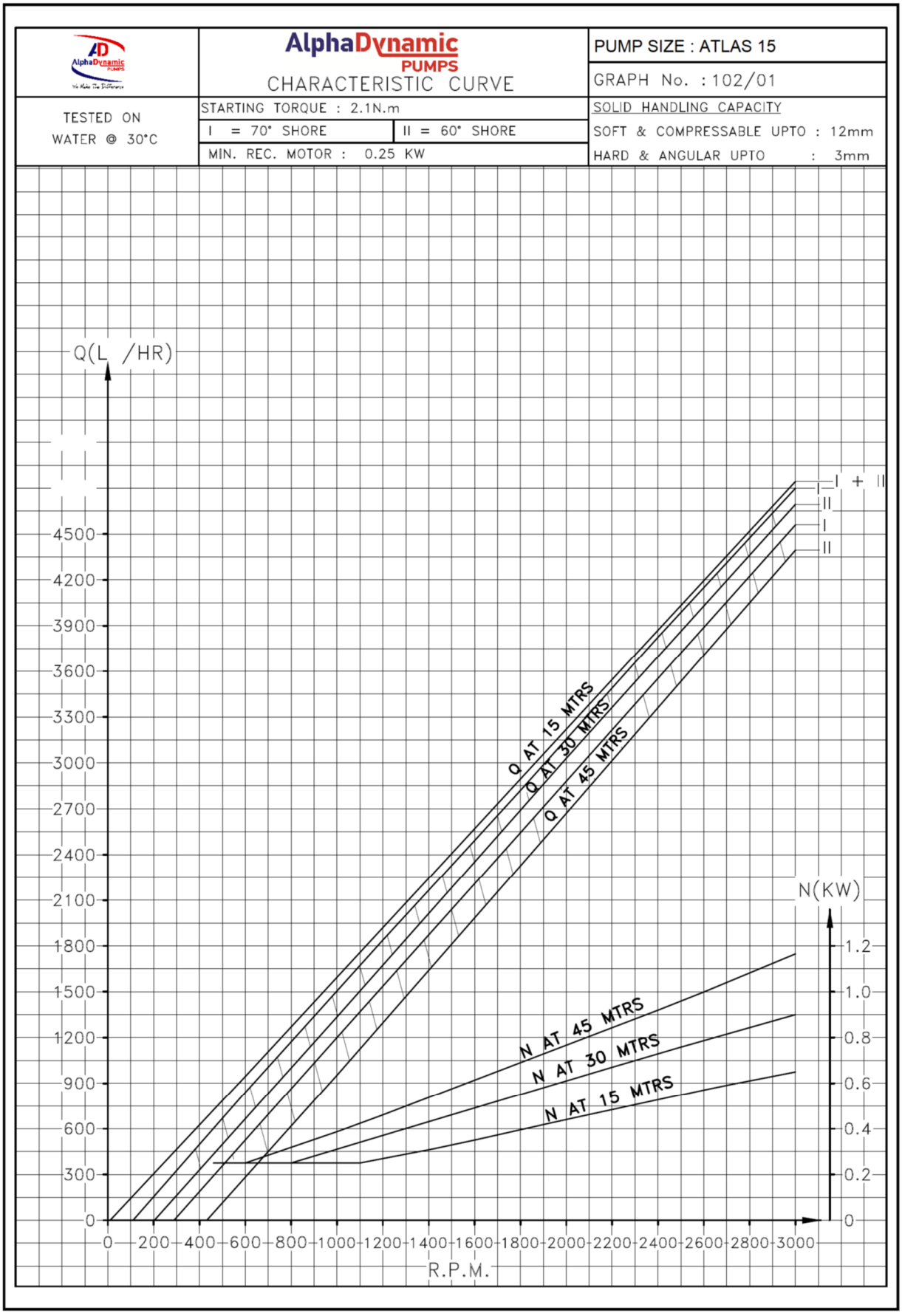
7. Technical Specifications

7.1 Technical Data

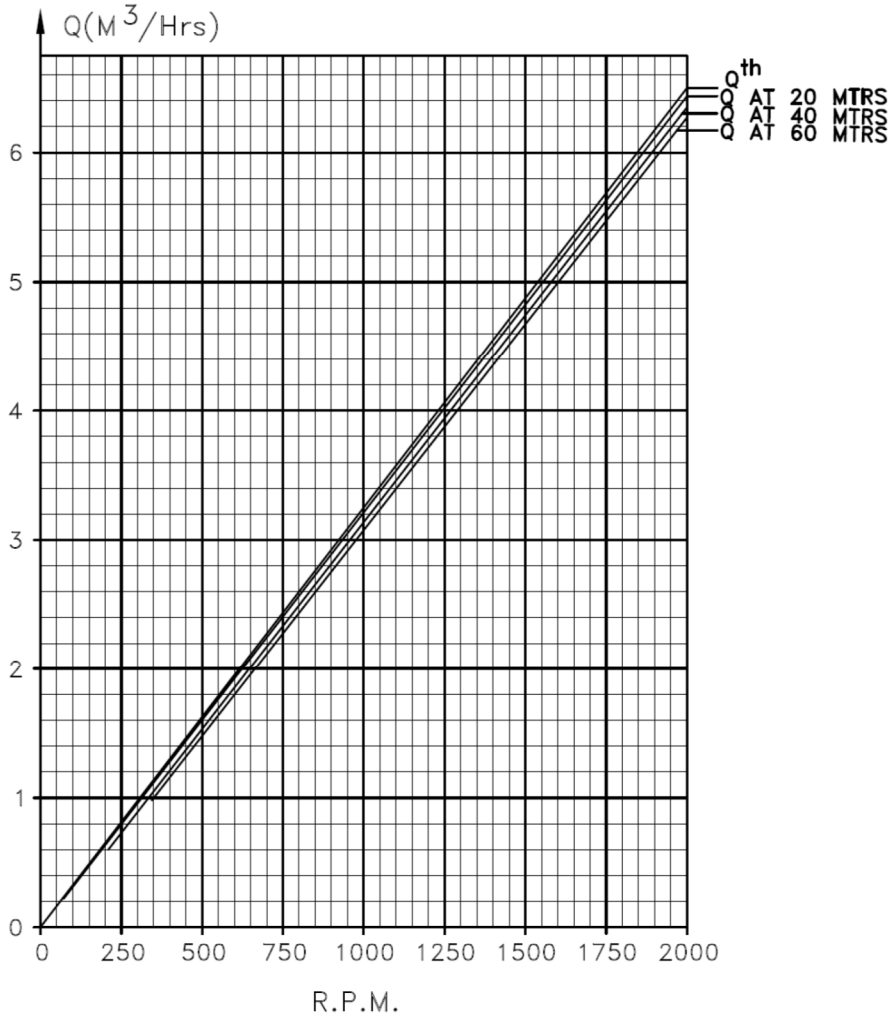
Maximum viscosity…… 1.000.000 mPa.s
Maximum working pressure……12 bar
Maximum temperature……5C(NBR), 100C (EPDM)
Noise Level……..60-80dB(A)
Suction/Discharge connections……DIN 11851

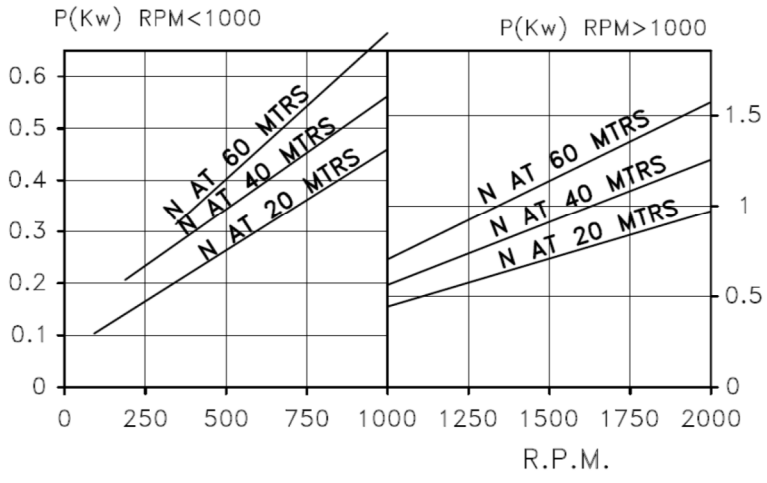
Materials:
Parts in contact with the product……..AISI316L
Stator…… NBR, EPDM, VITON, HYPALON
Mechanical seal……..SIC/SIC/VITON, EPDM, NBR

8. Curves


AlphaDynamic PUMPS
CHARACTERISTIC CURVE
PUMP SIZE : ATLAS 15
GRAPH No. : 102/01
TESTED ON WATER @ 30°C
STARTING TORQUE : 2.1N.m
I = 70° SHORE
II = 60° SHORE
MIN. REC. MOTOR : 0.25 KW
SOLID HANDLING CAPACITY
SOFT & COMPRESSABLE UPTO : 12mm
HARD & ANGULAR UPTO : 3mm
Q(L /HR)
4500
4200
3900
3600
3300
3000
2700
2400
2100
1800
1500
1200
900
600
300
0
I + II
II
I
II
Q AT 15 MTRS
Q AT 30 MTRS
Q AT 45 MTRS
N(KW)
1.2
1.0
0.8
0.6
0.4
0.2
0
N AT 45 MTRS
N AT 30 MTRS
N AT 15 MTRS
0 200 400 600 800 1000 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000
R.P.M.

	AlphaDynamic PUMPS CHARACTERISTIC CURVE	PUMP SIZE : ATLAS 21 GRAPH No. : /401/01
TESTED ON WATER @ 30°C	STARTING TORQUE : 10 Nm STATOR SHORE HARDNESS = 70°	SOLID HANDLING CAPACITY SOFT & COMPRESSABLE UPTO : 12mm HARD & ANGULAR UPTO : 3mm





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AlphaDynamic PUMPS

CHARACTERISTIC CURVE

PUMP SIZE : ATLAS 22

GRAPH No. :204/01

TESTED ON WATER @ 30°C

STARTING TORQUE : 5.91N.m

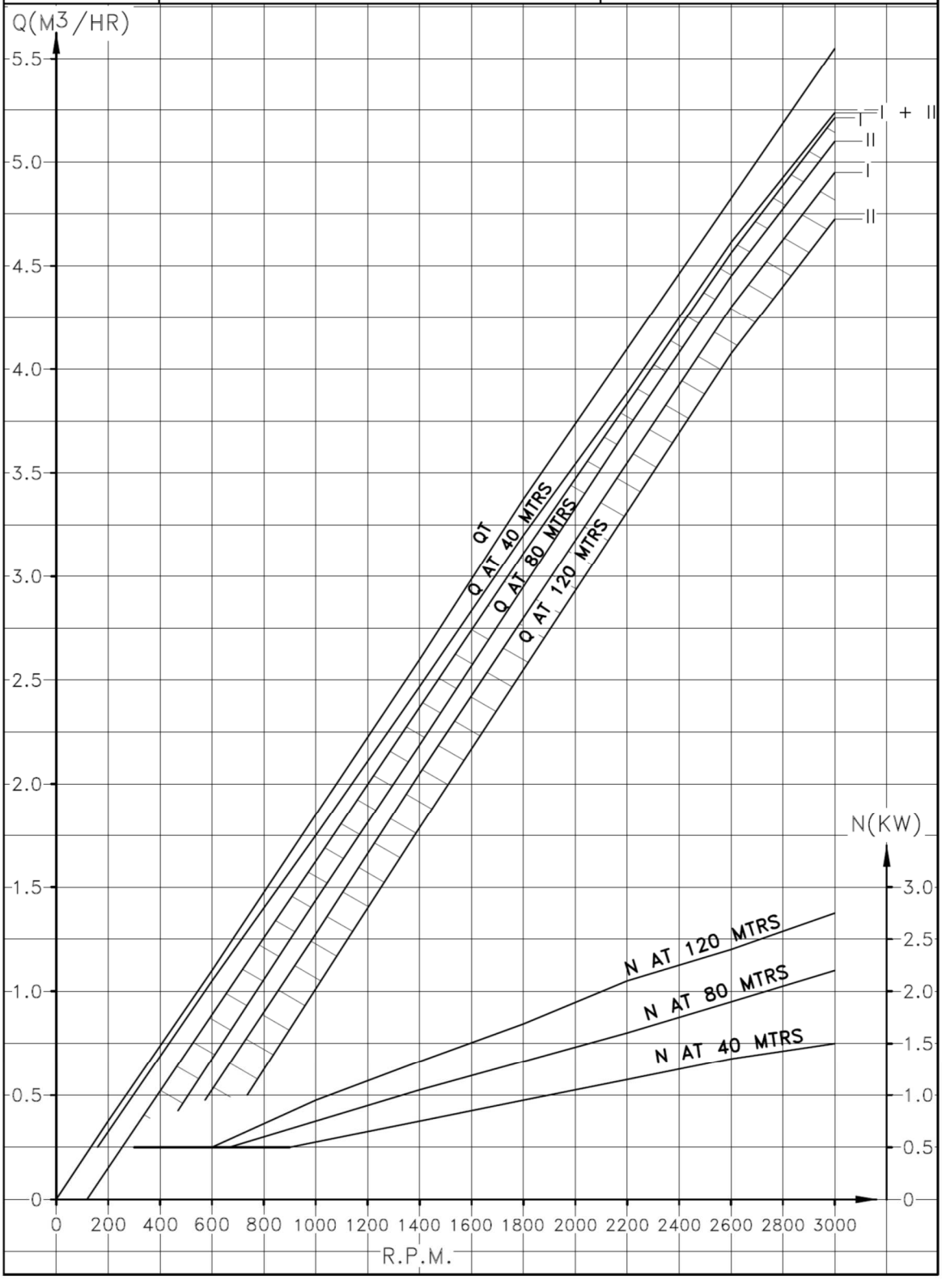
I = 70° SHORE | II = 60° SHORE

MIN. REC. MOTOR : 0.55 KW

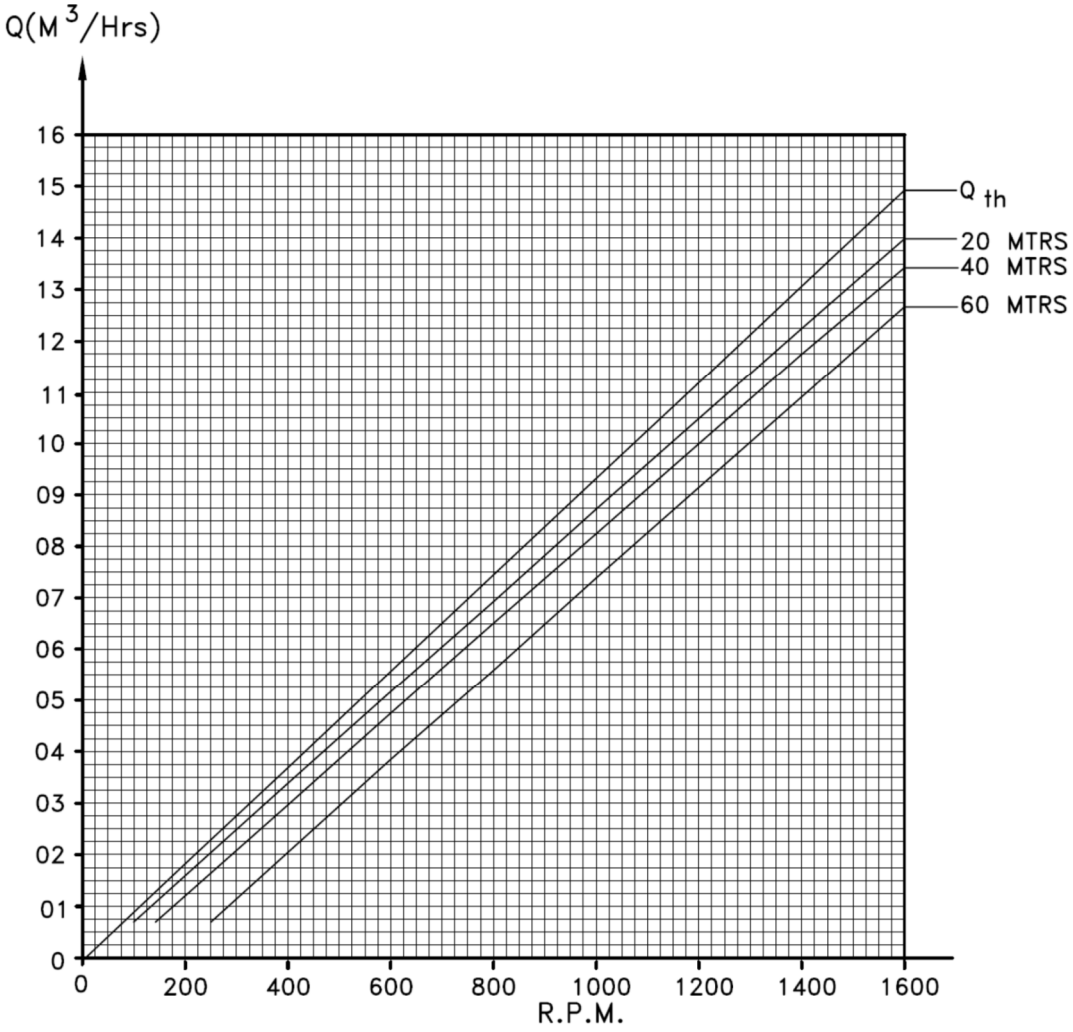
SOLID HANDLING CAPACITY

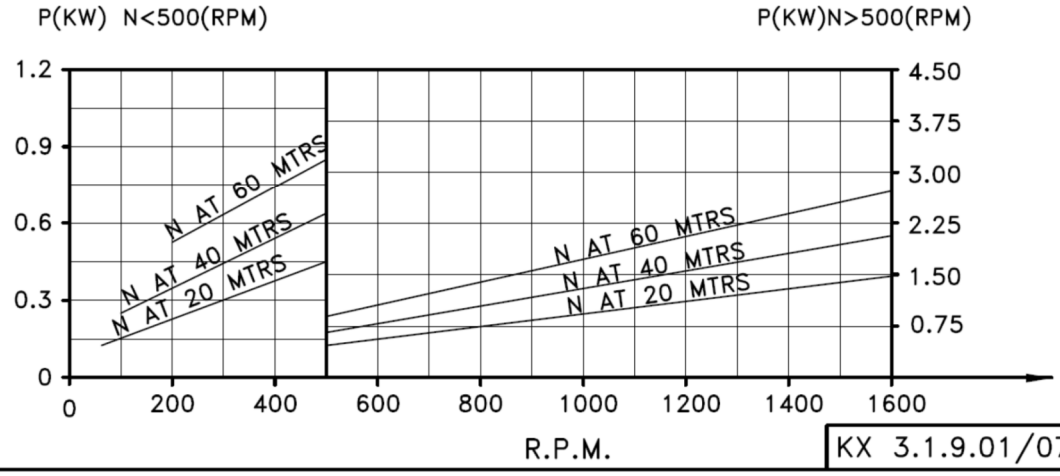
SOFT & COMPRESSABLE UPTO : 16mm

HARD & ANGULAR UPTO : 4mm

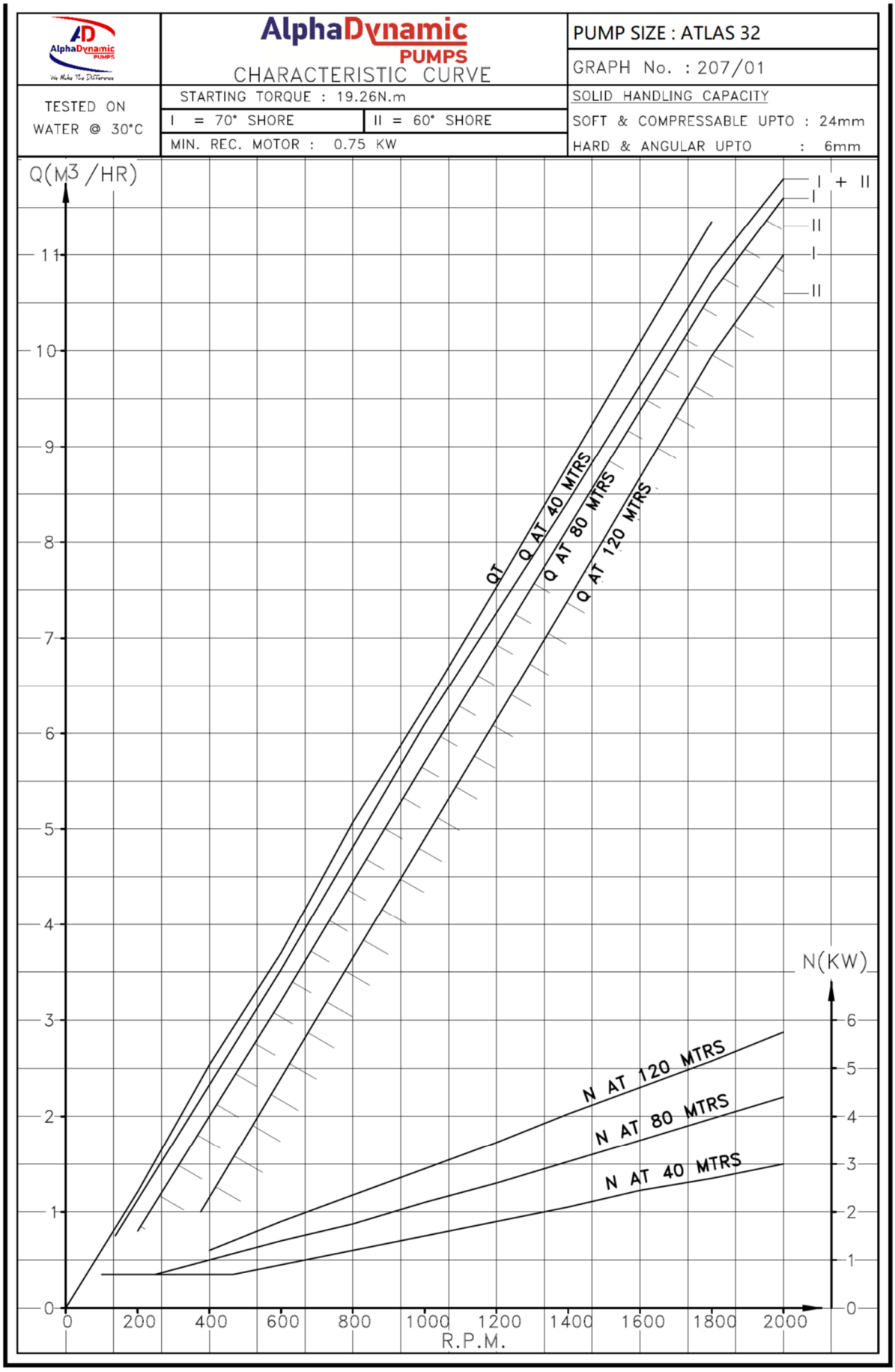


	AlphaDynamic Pumps Co. CHARACTERISTIC CURVE	PUMP SIZE : ATLAS 31 GRAPH No. : 303/02
TESTED ON WATER @ 30°C	STARTING TORQUE : 23 Nm SHORE HARDNESS 70° SHORE MIN. REC. MOTOR :	SOLID HANDLING CAPACITY SOFT & COMPRESSABLE UPTO : 18mm HARD & ANGULAR UPTO : 4.5mm

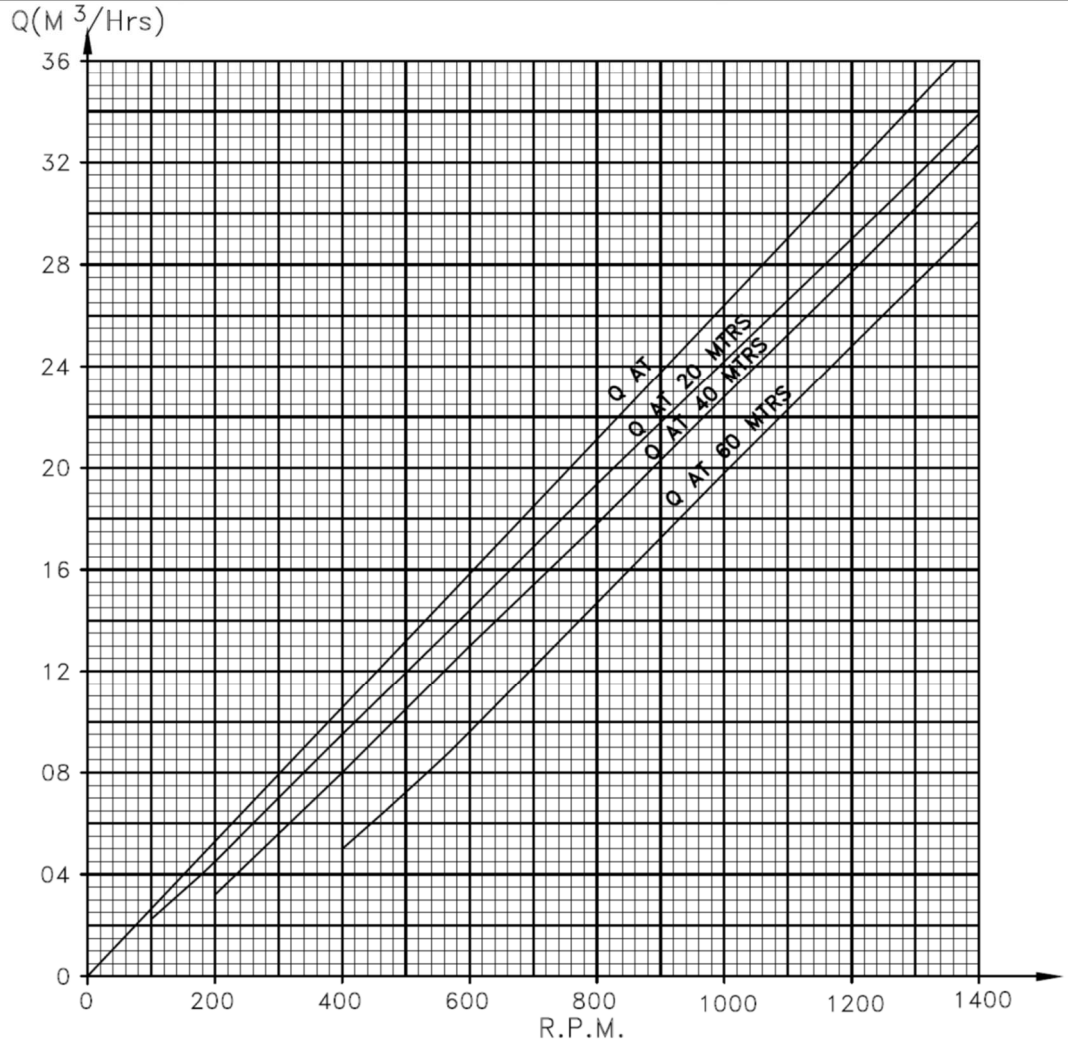


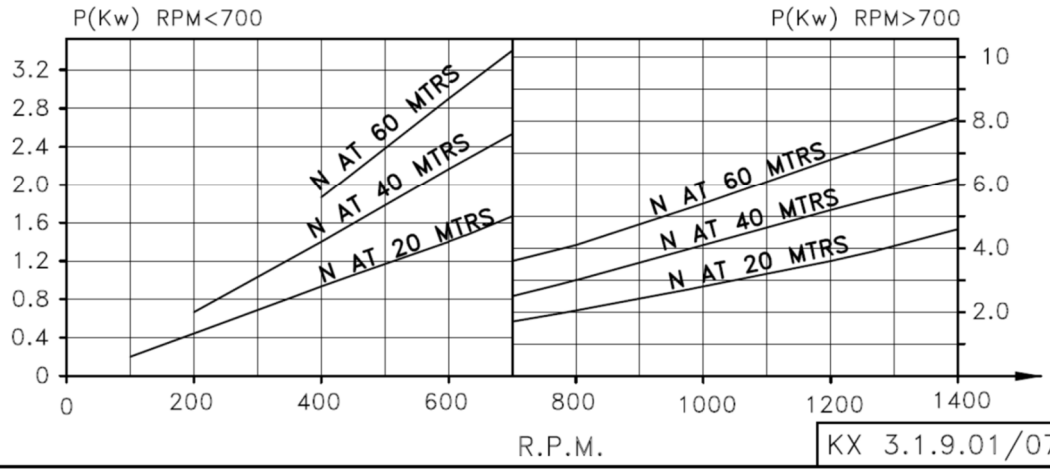


KX 3.1.9.01/07.99

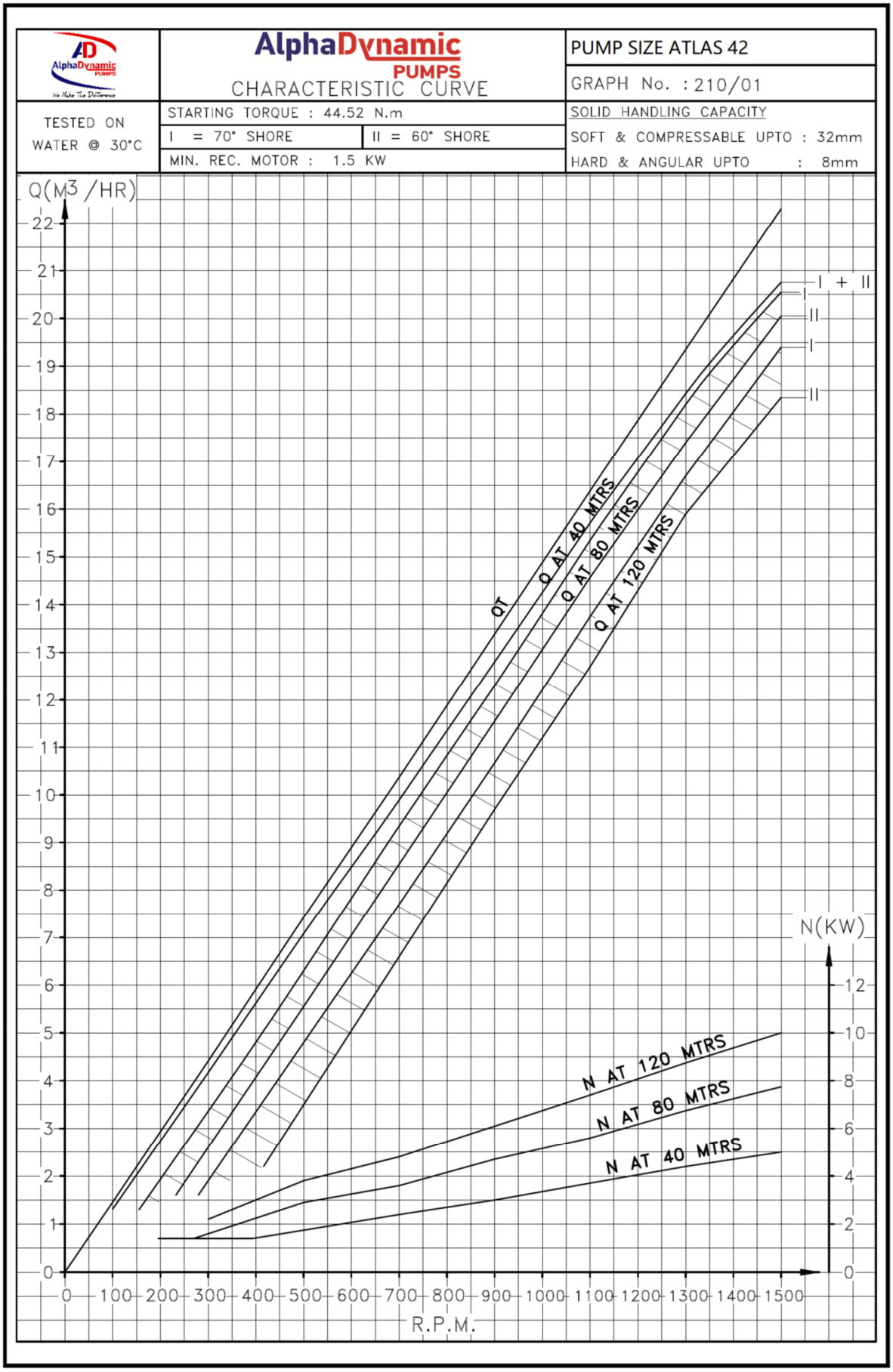

AlphaDynamic PUMPS
CHARACTERISTIC CURVE
PUMP SIZE : ATLAS 32
GRAPH No. : 207/01
TESTED ON WATER @ 30°C
STARTING TORQUE : 19.26N.m
I = 70° SHORE
II = 60° SHORE
MIN. REC. MOTOR : 0.75 KW
SOLID HANDLING CAPACITY
SOFT & COMPRESSABLE UPTO : 24mm
HARD & ANGULAR UPTO : 6mm
Q(M3/HR)
I + II
I
II
I
II
QT Q AT 40 MTRS
Q AT 80 MTRS
Q AT 120 MTRS
N(KW)
N AT 120 MTRS
N AT 80 MTRS
N AT 40 MTRS
R.P.M.

	AlphaDynamic PUMPS CHARACTERISTIC CURVE	PUMP SIZE ATLAS 38 GRAPH No. : 305/02
TESTED ON WATER @ 30°C	STARTING TORQUE : 59.9 N.m SHORE HARDNESS 70° SHORE MIN. REC. MOTOR :	SOLID HANDLING CAPACITY SOFT & COMPRESSABLE UPTO : 15mm HARD & ANGULAR UPTO : 3.75mm

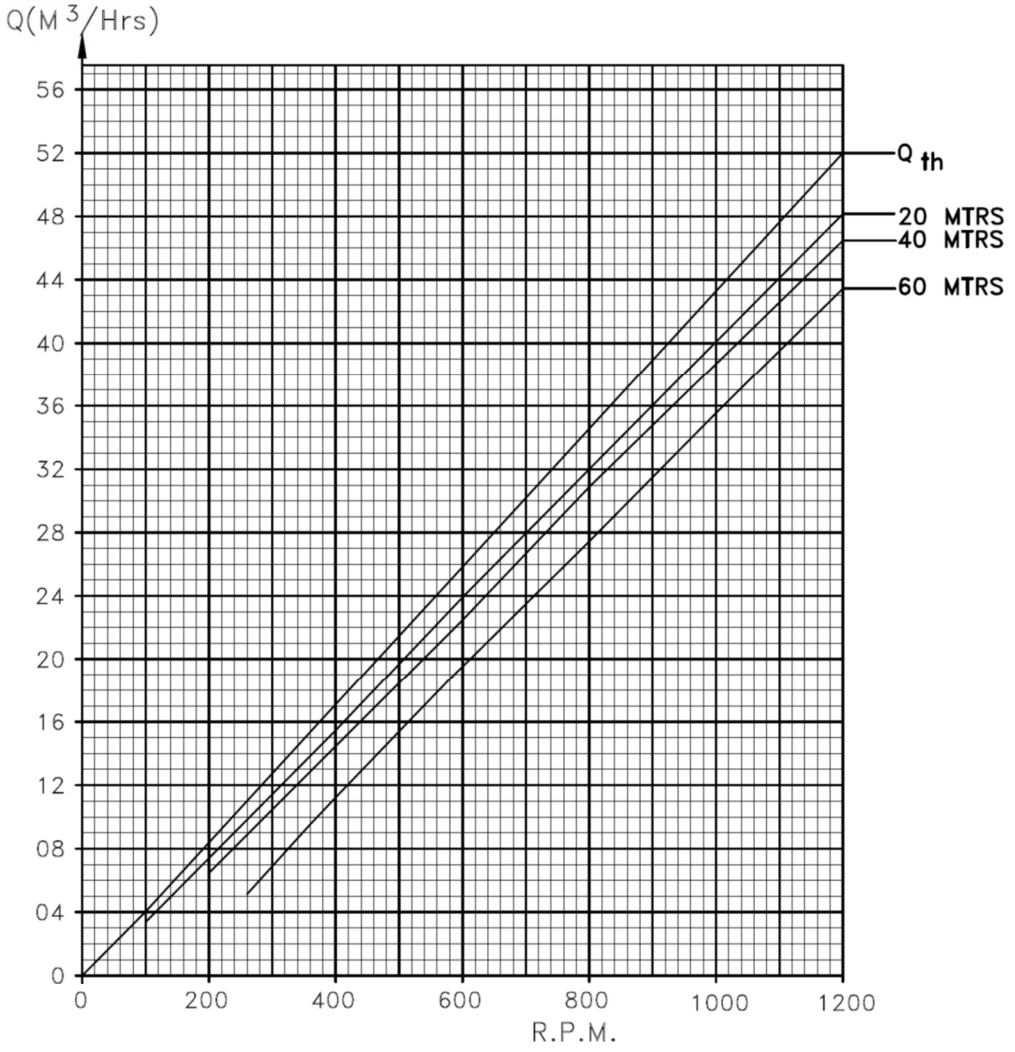


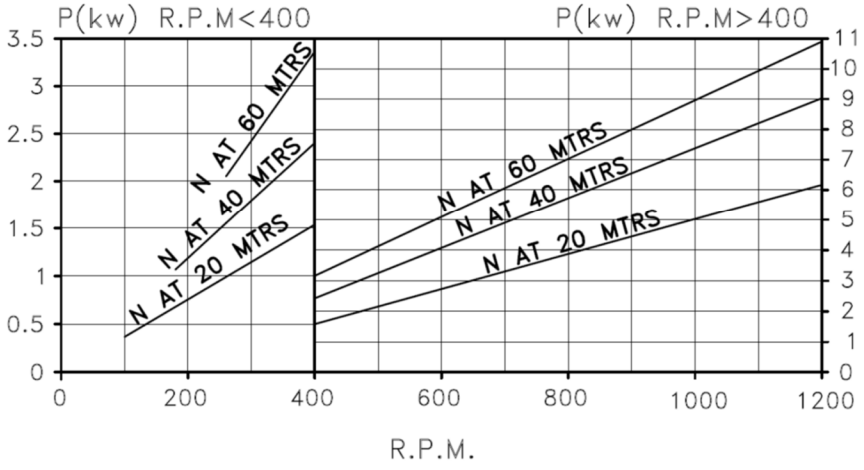


KX 3.1.9.01/07.99


AlphaDynamic PUMPS
CHARACTERISTIC CURVE
PUMP SIZE ATLAS 42
GRAPH No. : 210/01
TESTED ON WATER @ 30°C
STARTING TORQUE : 44.52 N.m
I = 70° SHORE
II = 60° SHORE
MIN. REC. MOTOR : 1.5 KW
SOLID HANDLING CAPACITY
SOFT & COMPRESSABLE UPTO : 32mm
HARD & ANGULAR UPTO : 8mm
Q(M3/HR)
QT
Q AT 40 MTRS
Q AT 80 MTRS
Q AT 120 MTRS
I + II
I
II
I
II
N(KW)
N AT 120 MTRS
N AT 80 MTRS
N AT 40 MTRS
R.P.M.

	AlphaDynamic PUMPS CHARACTERISTIC CURVE	PUMP SIZE : ATLAS 45 GRAPH No. : 307/01
TESTED ON WATER @ 30°C	STARTING TORQUE : 83.6 N.m SHORE HARDNESS 70° SHORE MIN. REC. MOTOR :	SOLID HANDLING CAPACITY SOFT & COMPRESSABLE UPTO : 36mm HARD & ANGULAR UPTO : 9mm





AlphaDynamic PUMPS

CHARACTERISTIC CURVE

PUMP SIZE : ATLAS 52

GRAPH No. : 213/01

TESTED ON WATER @ 30°C

STARTING TORQUE : 86 N.m

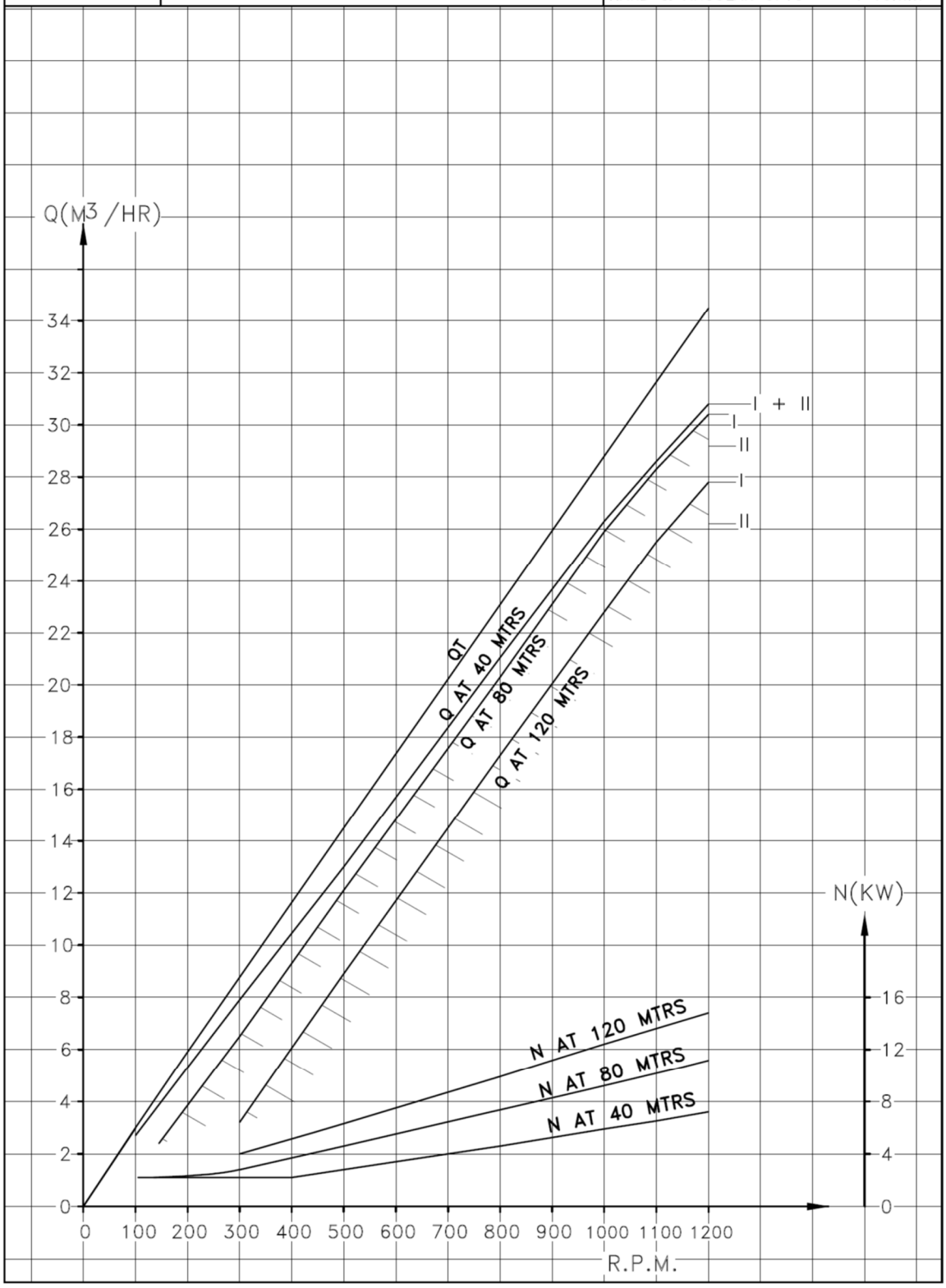
I = 70° SHORE | II = 60° SHORE

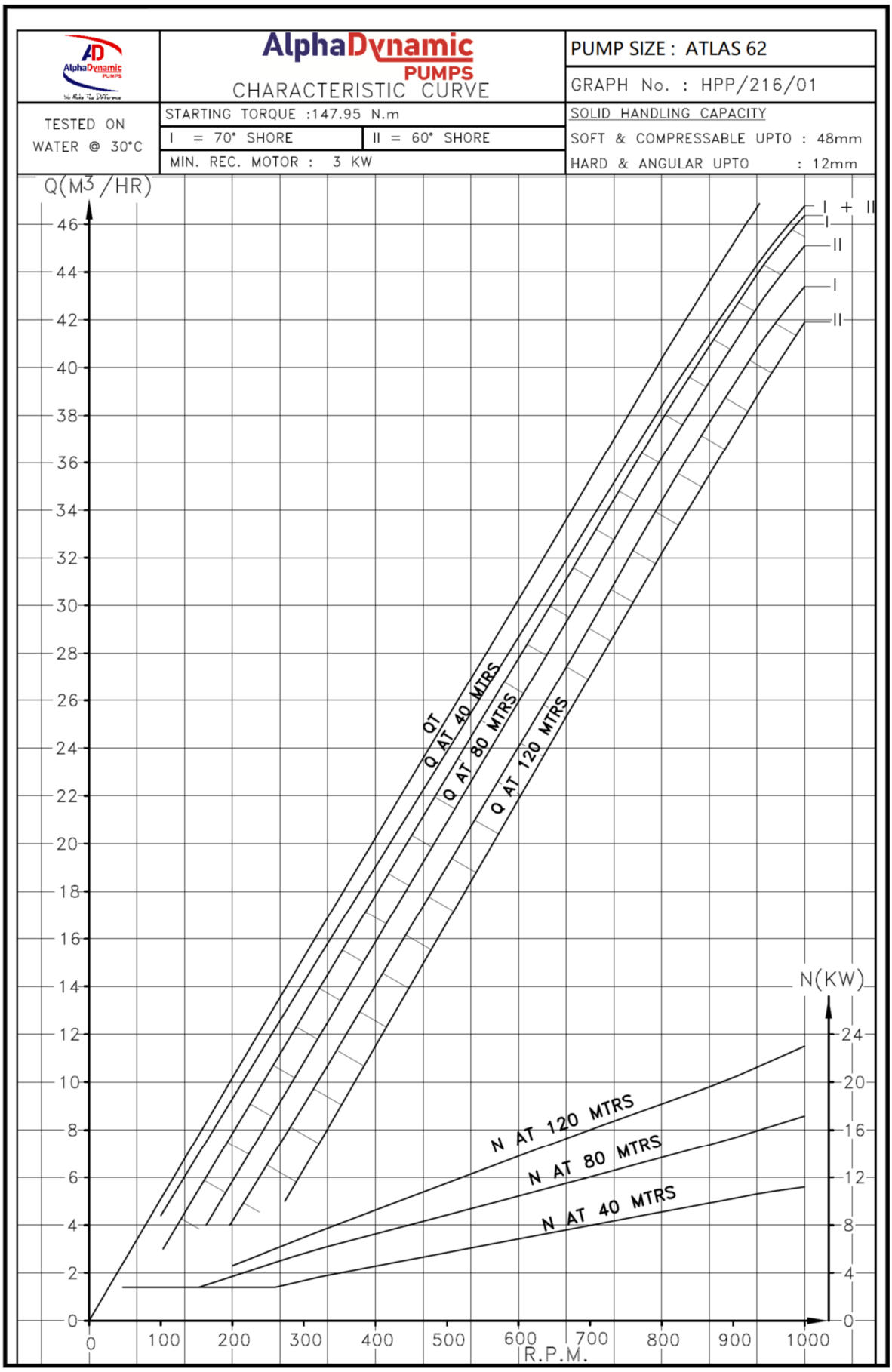
MIN. REC. MOTOR : 2.2 KW

SOLID HANDLING CAPACITY

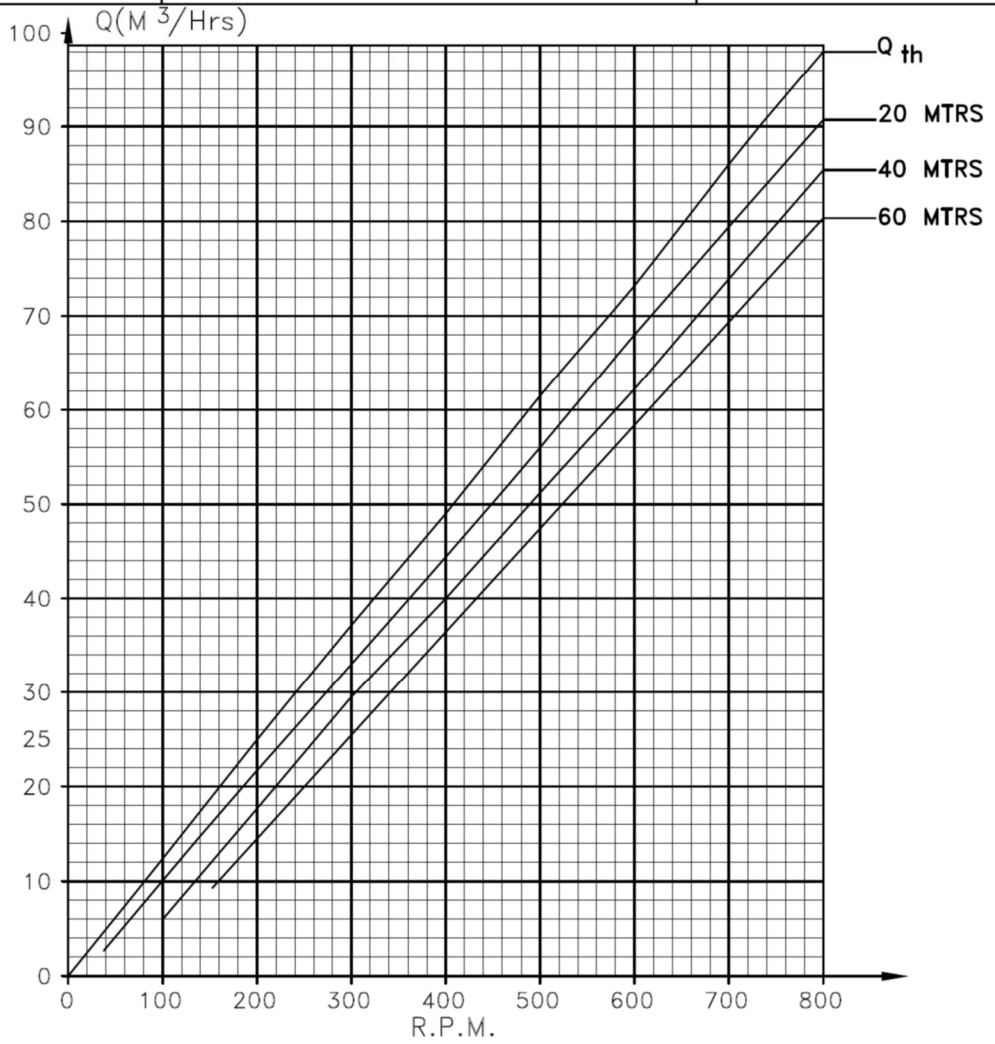
SOFT & COMPRESSABLE UPTO : 40mm

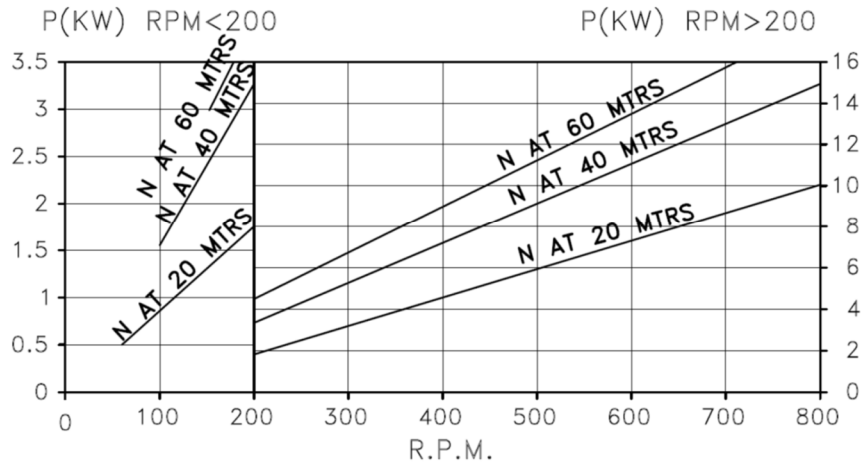
HARD & ANGULAR UPTO : 10mm



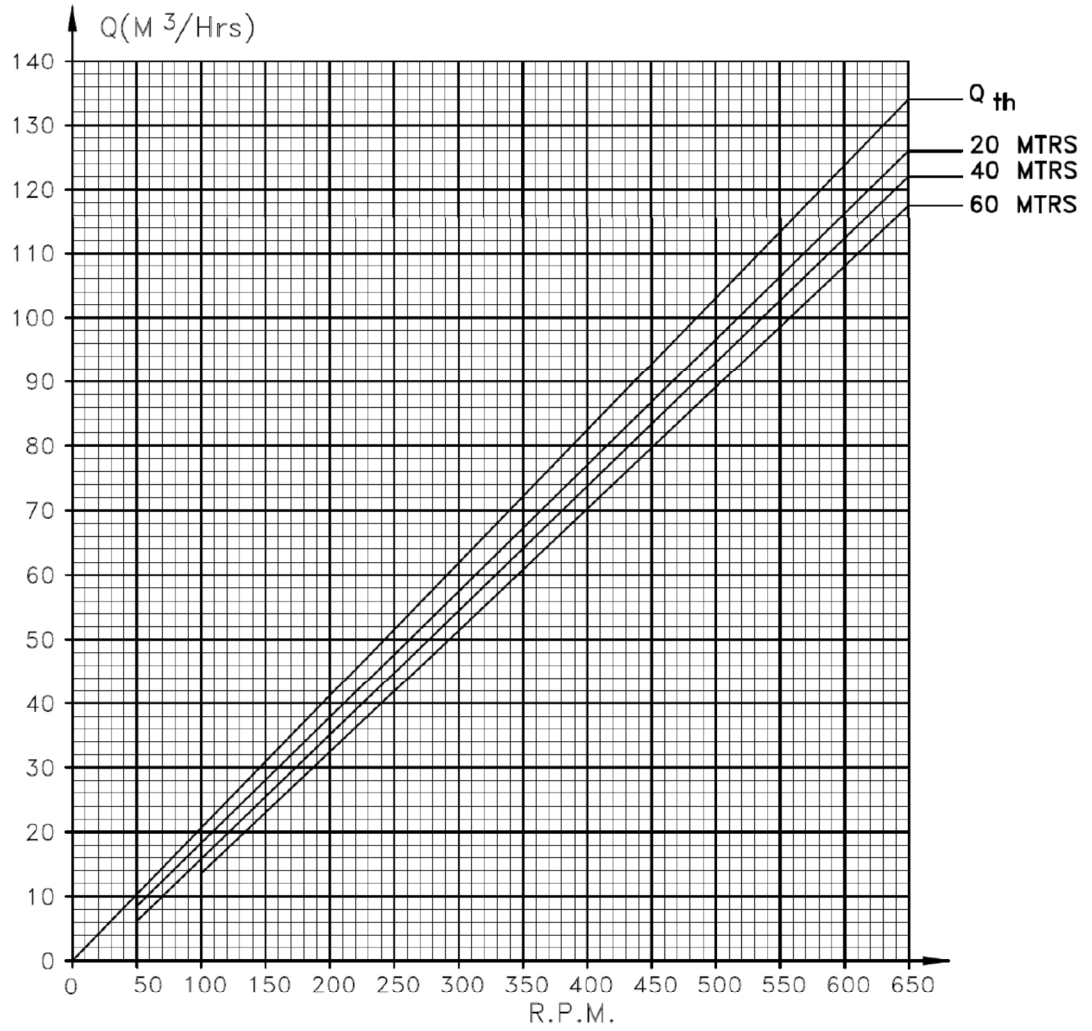

AlphaDynamic PUMPS
CHARACTERISTIC CURVE
PUMP SIZE : ATLAS 62
GRAPH No. : HPP/216/01
TESTED ON WATER @ 30°C
STARTING TORQUE :147.95 N.m
I = 70° SHORE
II = 60° SHORE
MIN. REC. MOTOR : 3 KW
SOLID HANDLING CAPACITY
SOFT & COMPRESSABLE UPTO : 48mm
HARD & ANGULAR UPTO : 12mm
Q(M3/HR)
N(KW)
R.P.M.
I + II
I
II
I
II
OT
Q AT 40 MTRS
Q AT 80 MTRS
Q AT 120 MTRS
N AT 120 MTRS
N AT 80 MTRS
N AT 40 MTRS

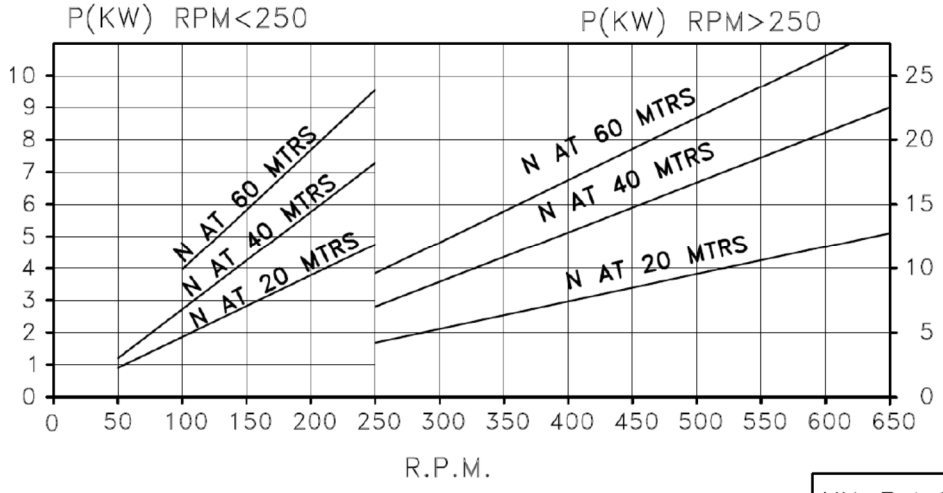
AlphaDynamic PUMPS	**AlphaDynamic PUMPS** CHARACTERISTIC CURVE	PUMP SIZE : ATLAS 63 GRAPH No. :311/01
TESTED ON WATER @ 30°C	STARTING TORQUE : 155 N.m SHORE HARDNESS 70° SHORE MIN. REC. MOTOR :	SOLID HANDLING CAPACITY SOFT & COMPRESSABLE UPTO : 52mm HARD & ANGULAR UPTO : 13mm





AlphaDynamic PUMPS	**AlphaDynamic PUMPS** CHARACTERISTIC CURVE	PUMP SIZE : ATLAS 76 GRAPH No. : 409/01
TESTED ON WATER @ 30°C	STARTING TORQUE : 301.6 N.m SHORE HARDNESS 70° SHORE MIN. REC. MOTOR :	SOLID HANDLING CAPACITY SOFT & COMPRESSABLE UPTO : HARD & ANGULAR UPTO :



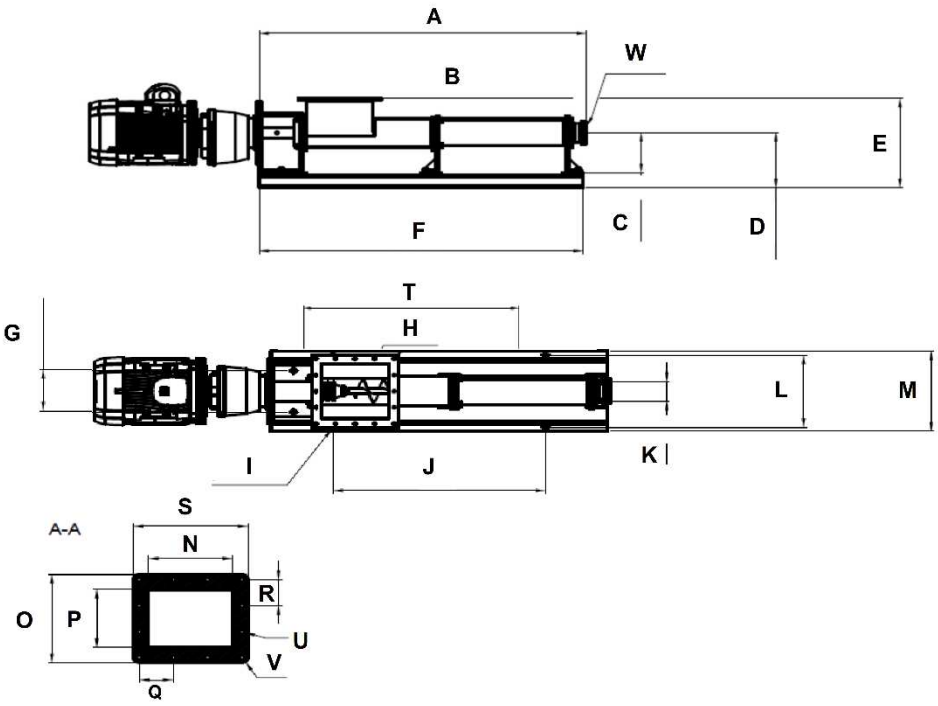


KX 3.1.9.01/07.99

9. Dimensions

9.1 Dimensions WSM

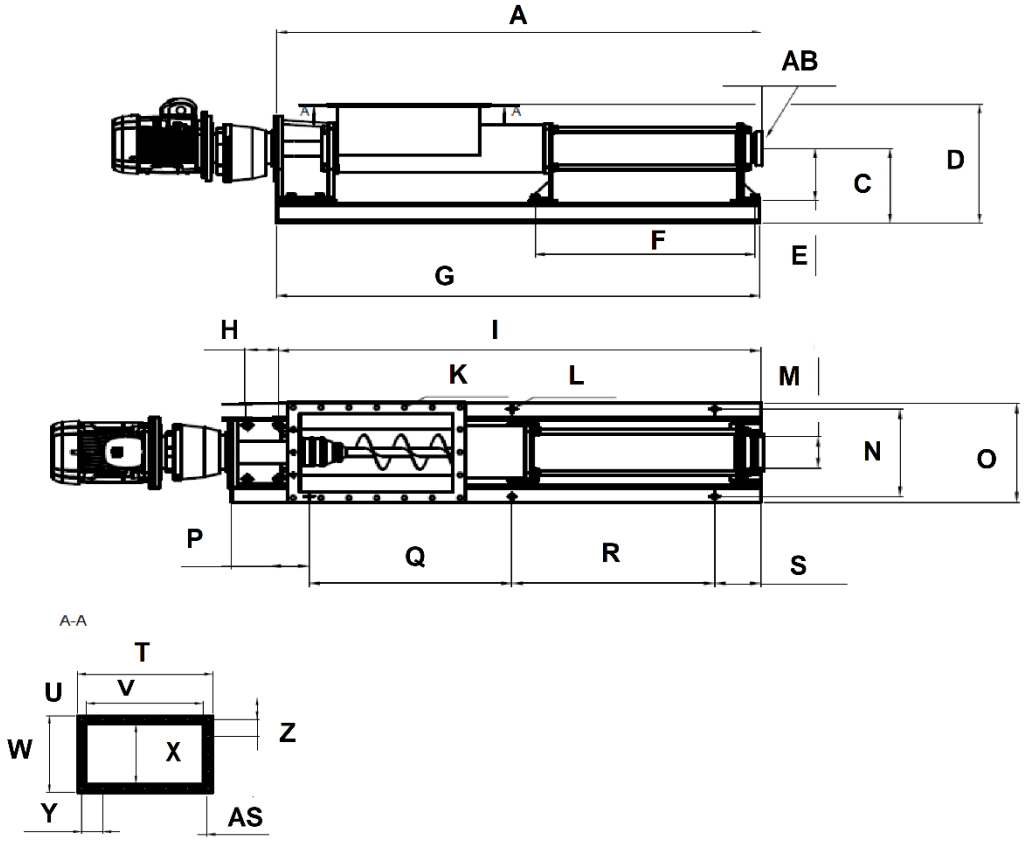
ATLAS WSM 15-45



MODEL	Dimension-mm-											
	A	B	C	D	E	F	G	H	I	J	K	L
ATLAS 15	678	463	120	178	258	690	120		Φ15	490	50	220
ATLAS 21	678	463	120	178	258	690	120		Φ15	490	50	220
ATLAS 22	678	463	120	178	258	690	120		Φ15	490	50	220
ATLAS 31	910		160	220	315	900	140	Φ10	Φ15	600	70	245
ATLAS 32	910		160	220	315	900	140	Φ10	Φ15	600	70	245
ATLAS 38	1152		160	220	358	1158	160	Φ10	Φ15	758	78	280
ATLAS 42	1213		160	220	358	1202	160	Φ10	Φ15	758	78	280
ATLAS 45	1213		160	220	358	1202	160	Φ10	Φ15	758	78	280

MODEL	Dimensions-mm-										
	M	N	O	P	Q	R	S	T	U	V	W
ATLAS 15	250	140	170	112	57	50	190	590	Φ8	R10	DN 40 DIN 11851
ATLAS 21	250	140	170	112	57	50	190	590	Φ8	R10	DN 40 DIN 11851
ATLAS 22	250	140	170	112	57	50	190	590	Φ8	R10	DN 40 DIN 11851
ATLAS 31	280	200	250	175	60	55	270	790			DN 50 DIN 11581
ATLAS 32	280	200	250	175	60	55	270	790			DN 50 DIN 11581
ATLAS 38	310	240	280	210	70	62,5	310	1042			DN 65 DIN 11851
ATLAS 42	310	240	280	210	70	62,5	310				DN 80 DIN 11851
ATLAS 45	310	240	280	210	70	62,5	310				DN 80 DIN 11851

ATLAS WSM 52-63

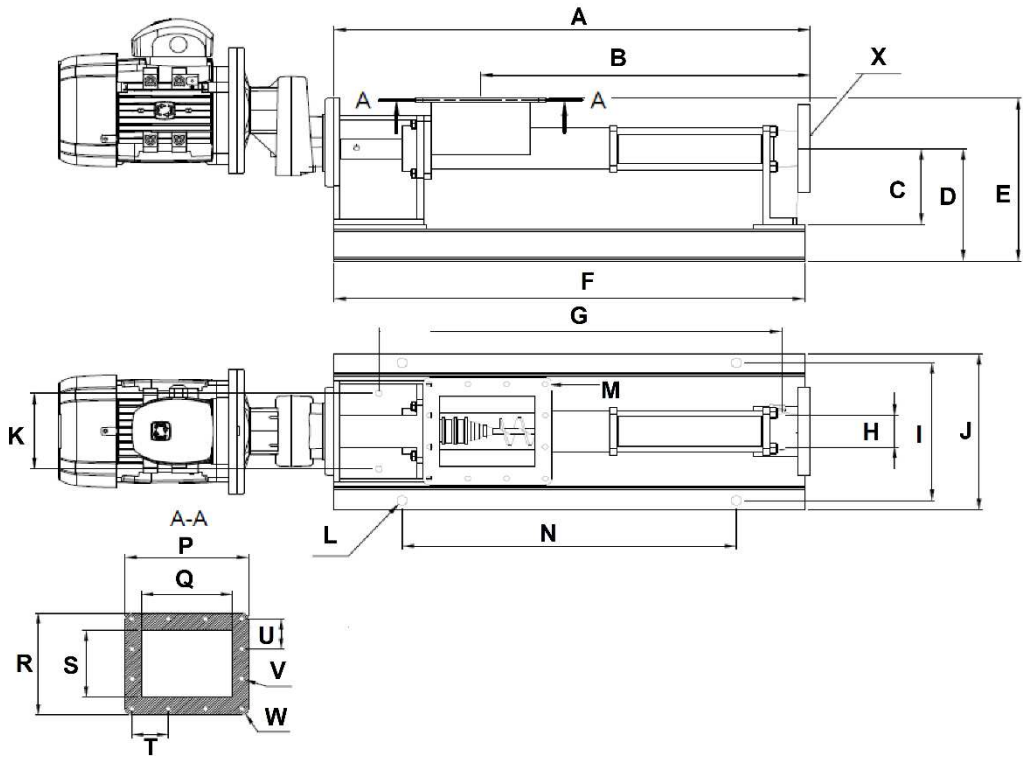


MODEL	Dimensions-mm-										
	R	S	T	U	V	W	X	Y	Z	AS	AB
ATLAS 52	540	200	400	239	327	310	28	74	70	45	DN 80 DIN 11851
ATLAS 53	540	200	400	239	327	310	28	74	70	45	DN 80 DIN 11851
ATLAS 62	656	150	575		495	355	275	90	80	25	DN 100 DIN 11851
ATLAS 63	656	150	575		495	355	275	90	80	25	DN 100 DIN 11851

MODEL	Dimensions-mm-														
	A	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
ATLAS 52	1483	264	422	179	677	1490	100	1308	160	Φ12	Φ15	92	285	320	210	540
ATLAS 53	1483	264	422	179	677	1490	100	1308	160	Φ12	Φ15	92	285	320	210	540
ATLAS 62	1720	287	457	200	780	1712		1562		Φ15	Φ19	110	310	350	250	656
ATLAS 63	1720	287	457	200	780	1712		1562		Φ15	Φ19	110	310	350	250	656

9.2 Dimensions WCM

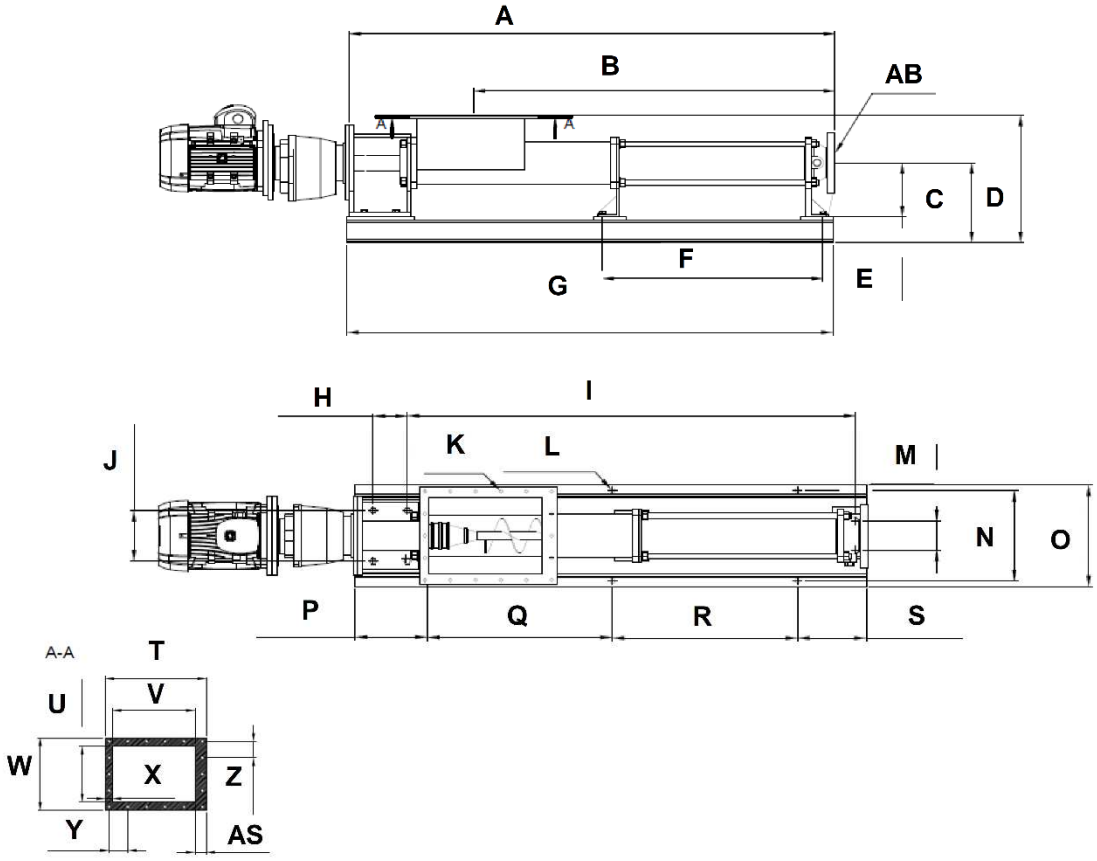
ATLAS WCM 21-45



MODEL	Dimensions-mm-												
	A	B	C	D	E	F	G	H	I	J	K	L	M
ATLAS 21	698	483	120	178	258	690	590	50	220	250	120	Φ15	
ATLAS 22	698	483	120	178	258	690	590	50	220	250	120	Φ15	
ATLAS 31	919	658	160	220	315	900	790	70	245	280	140	Φ15	Φ10
ATLAS 32	919	658	160	220	315	900	790	70	245	280	140	Φ15	Φ10
ATLAS 38	1161	861	60	358		1158	1042	78	280	310	160	Φ15	Φ10
ATLAS 42	1161	861	60	358		1158	1042	78	280	310	160	Φ15	Φ10
ATLAS 45	1222	922	60	358		1202		78	280	310	160	Φ15	Φ10

MODEL	Dimensions-mm-									
	N	P	Q	R	S	T	U	V	W	X
ATLAS 21	490	190	140	170	112	57	50	Φ8	R10	DN 32 PN 16
ATLAS 22	490	190	140	170	112	57	50	Φ8	R10	DN 32 PN 16
ATLAS 31	600	270	200	250	175	60	55			DN 50 PN 16
ATLAS 32	600	270	200	250	175	60	55			DN 50 PN 16
ATLAS 38	758	310	240	280	210	70	62,5			DN 65 PN 16
ATLAS 42	758	310	240	280	210	70	62,5			DN 65 PN 16
ATLAS 45	758	310	240	280	210	70	62,5			DN 65 PN 16

ATLAS WCM 52-63



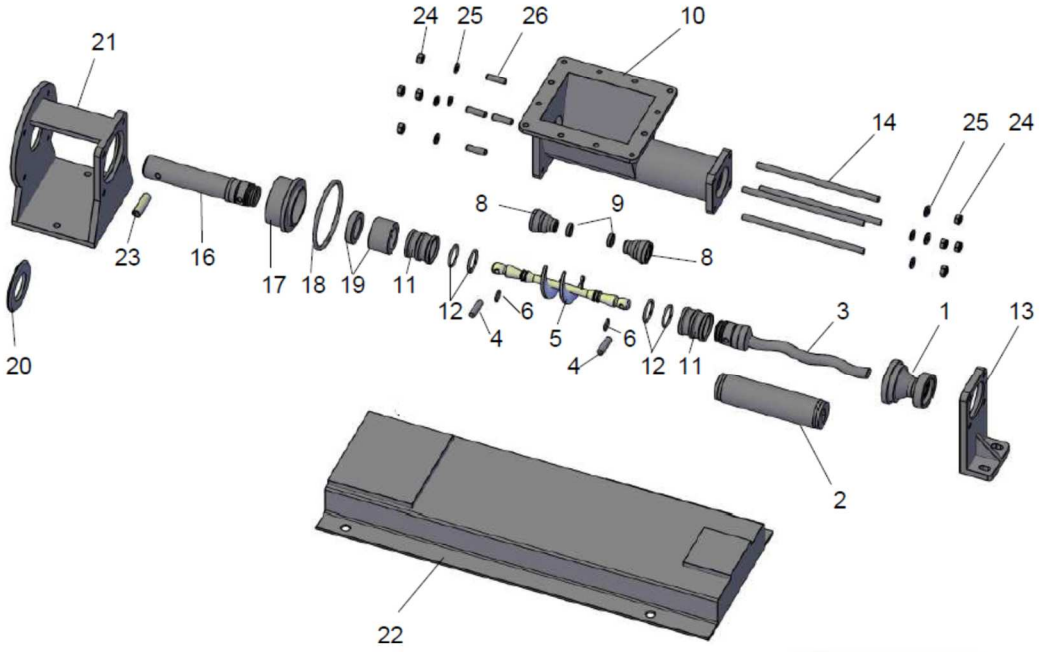
MODEL	Dimensions-mm-														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
ATLAS 52	1490	1109	264	422	179	677	1490	100	1308	160	Φ12	Φ15	92	285	320
ATLAS 53	1490	1109	264	422	179	677	1490	100	1308	160	Φ12	Φ15	92	285	320
ATLAS 62	1735	1267	287	457	200	780	1712		1562		Φ15	Φ19	110	310	350
ATLAS 63	1735	1267	287	457	200	780	1712		1562		Φ15	Φ19	110	310	350

MODEL	Dimensions-mm-												
	P	Q	R	S	T	U	V	W	X	Y	Z	AS	AB
ATLAS 52	210	540	540	200	400	239	327	310	28	74	70	45	DN 80 PN 16
ATLAS 53	210	540	540	200	400	239	327	310	28	74	70	45	DN 80 PN 16
ATLAS 62	250	656	656	150	575		495	355		90	80		DN 100 PN 16
ATLAS 63	250	656	656	150	575		495	355		90	80		DN 100 PN 16

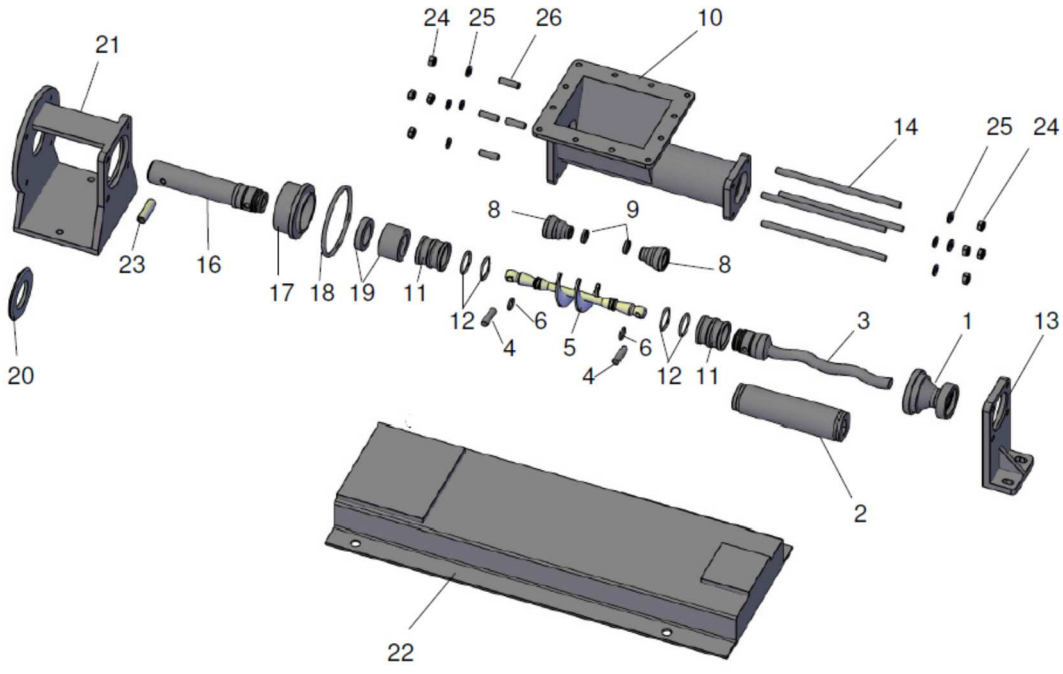
10. Exploded View

10.1 Exploded View WSM

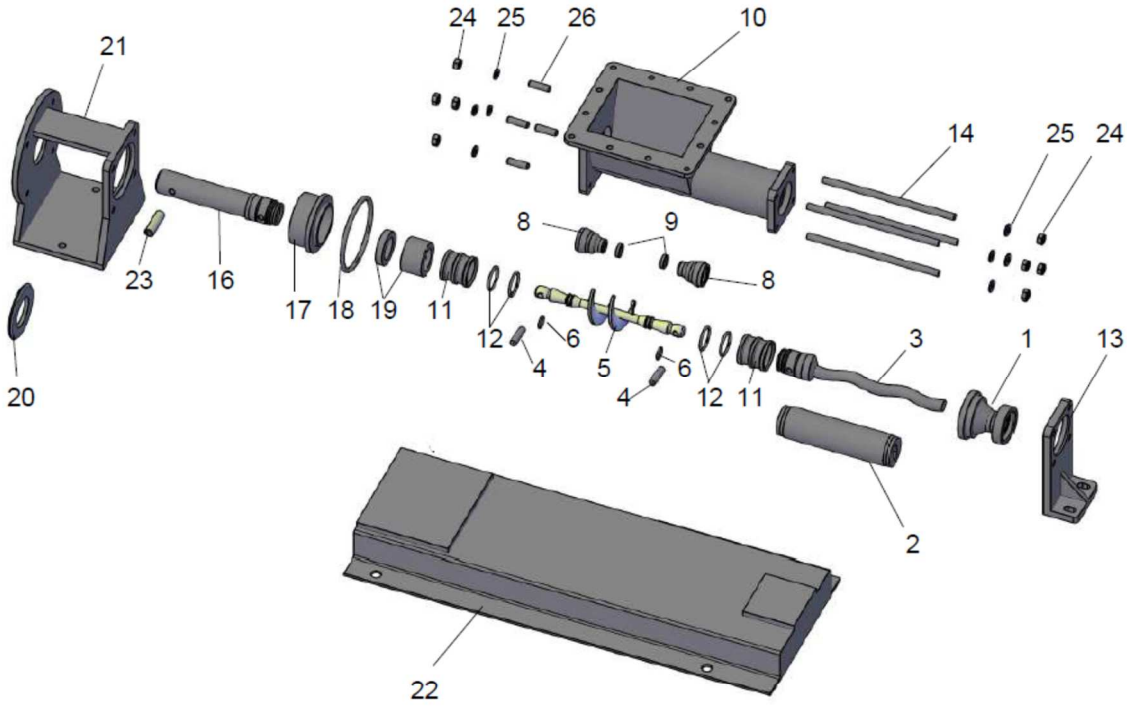
ATLAS WSM 21 spare part list drawing



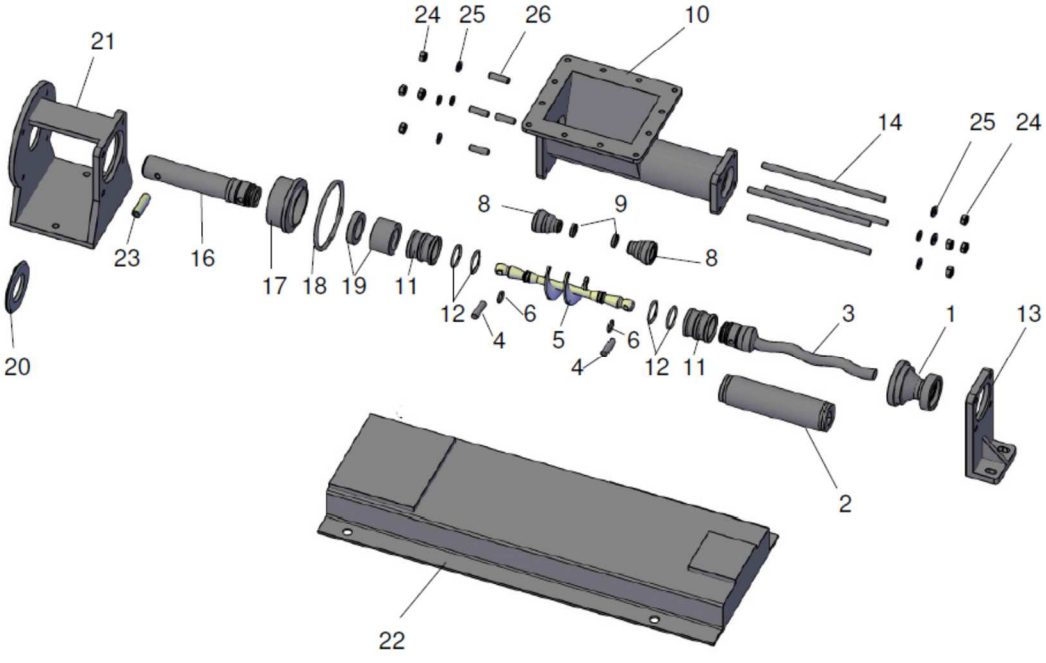
ATLAS WSM 22 spare part list drawing



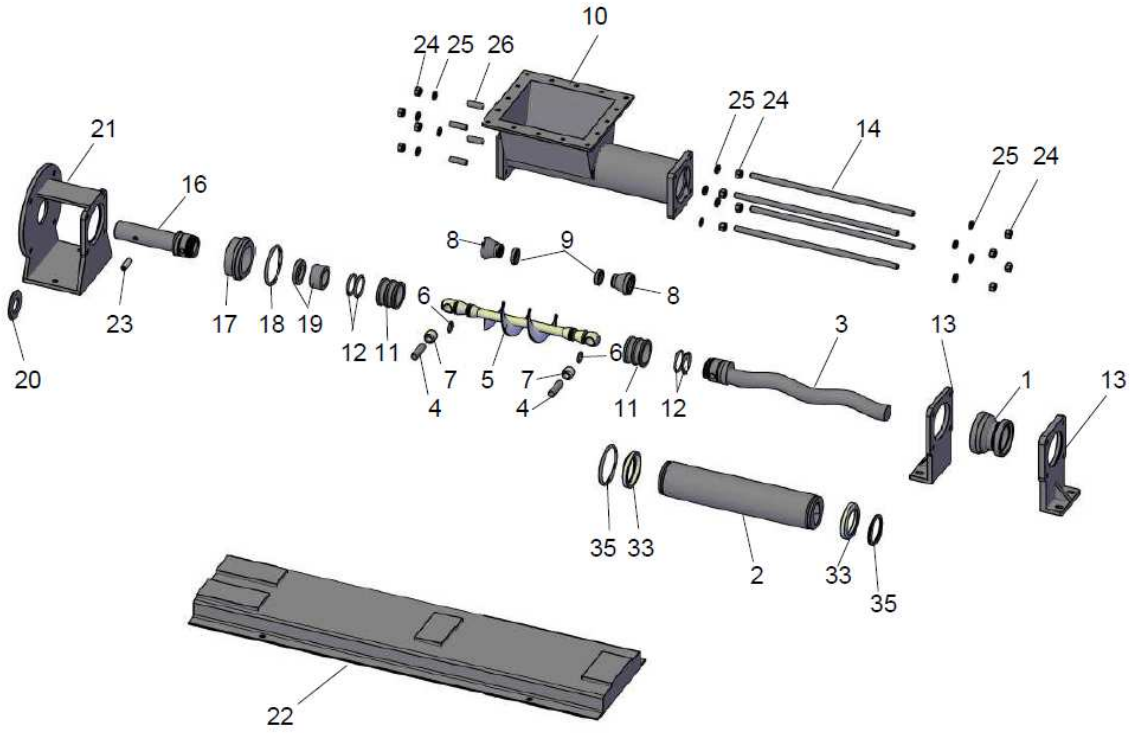
ATLAS WSM 31 spare part list drawing



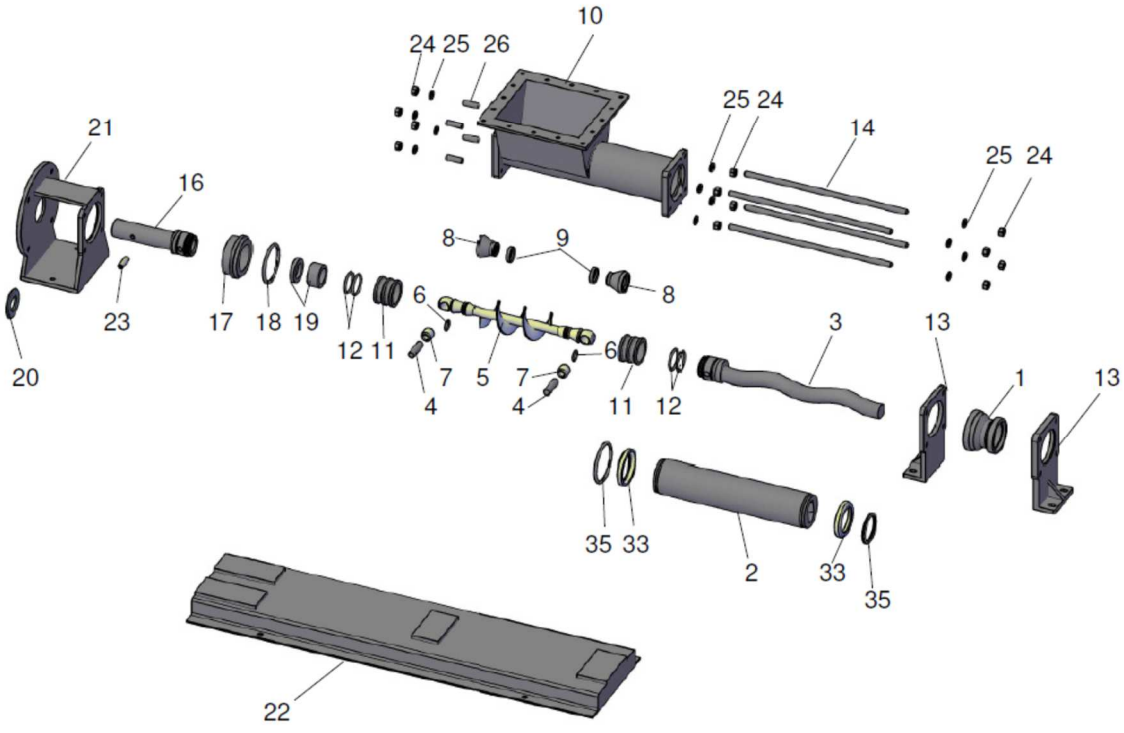
ATLAS WSM 32 spare part list drawing



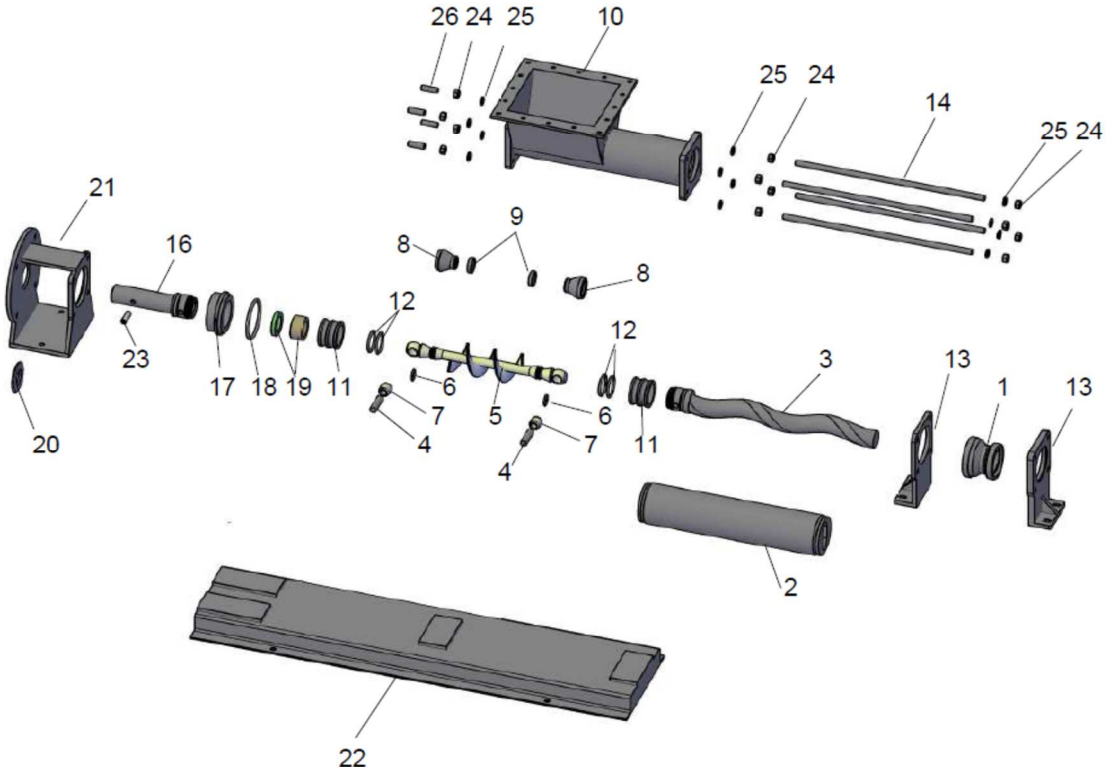
ATLAS WSM 38 spare part list drawing



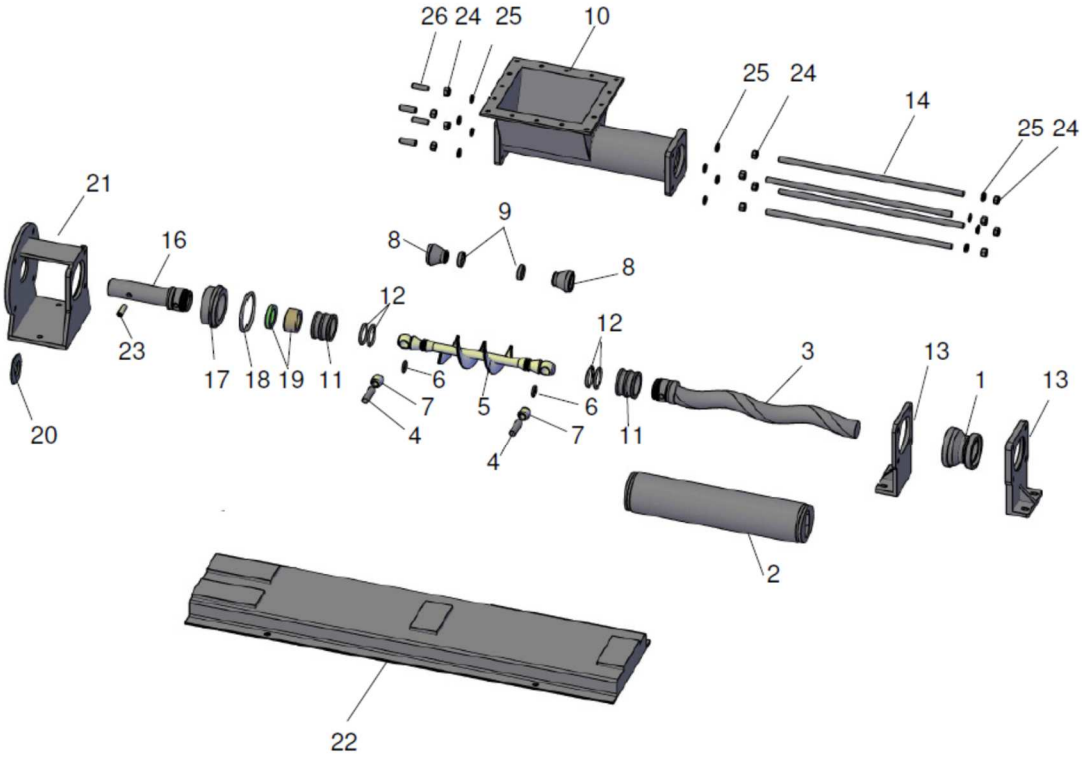
ATLAS WSM 42 spare part list drawing



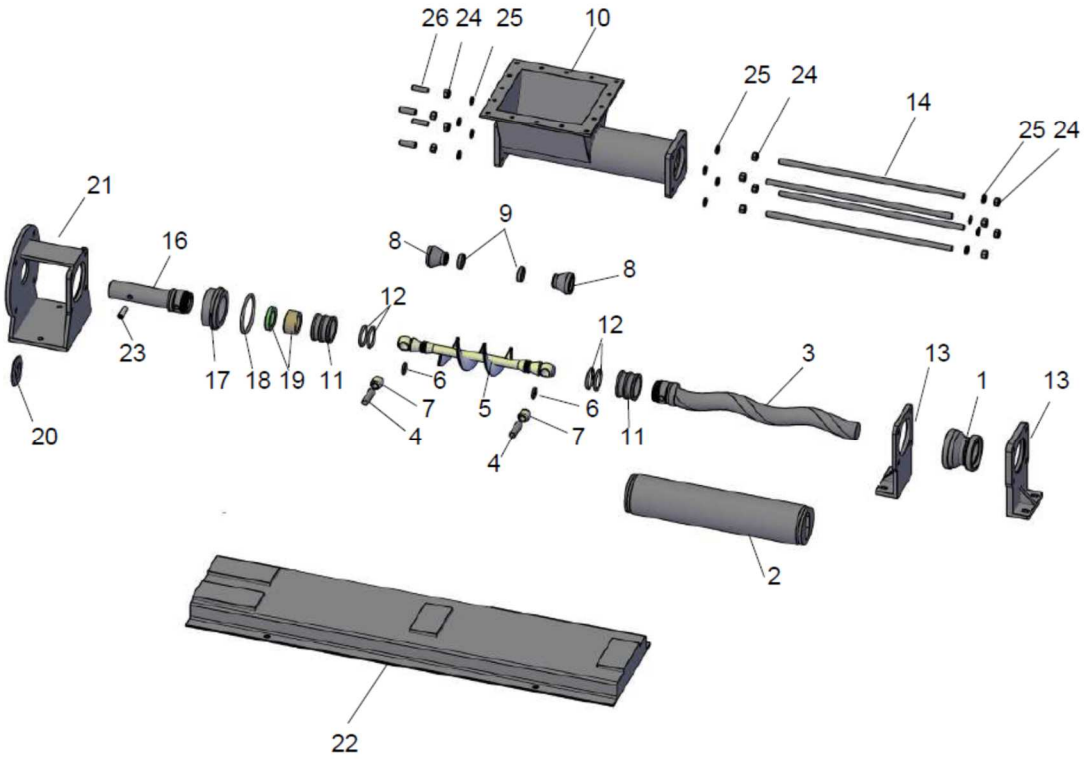
ATLAS WSM 45 spare part list drawing



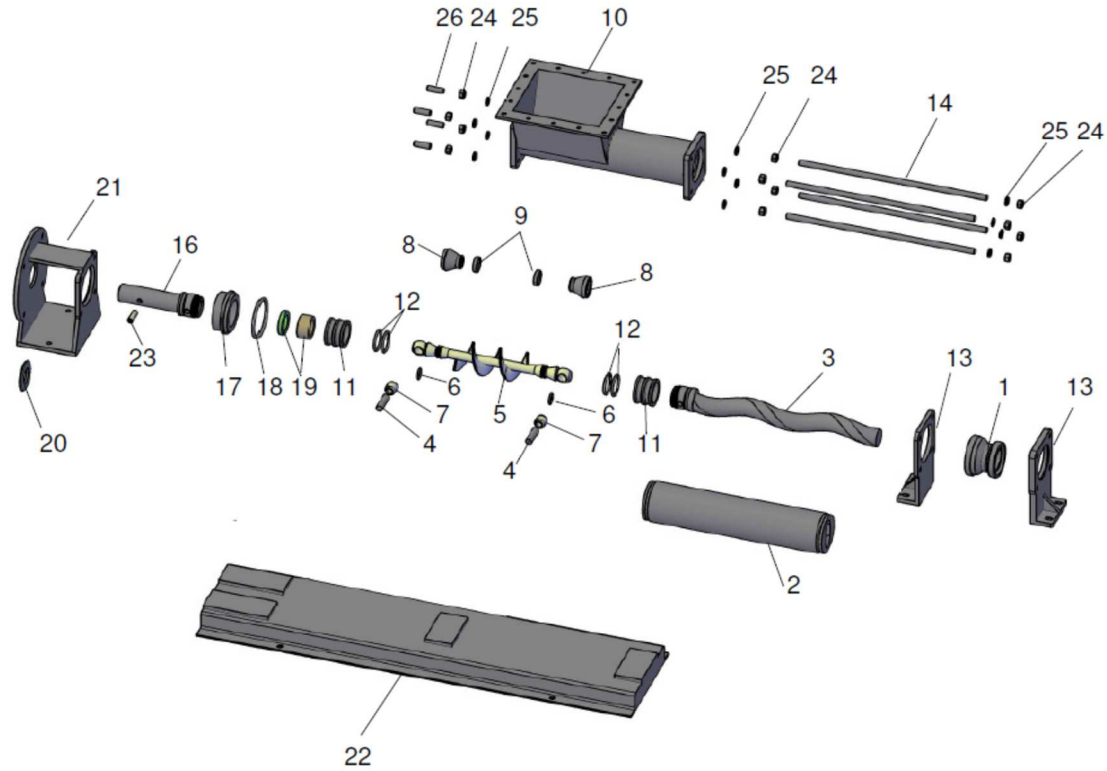
ATLAS WSM 52 spare part list drawing



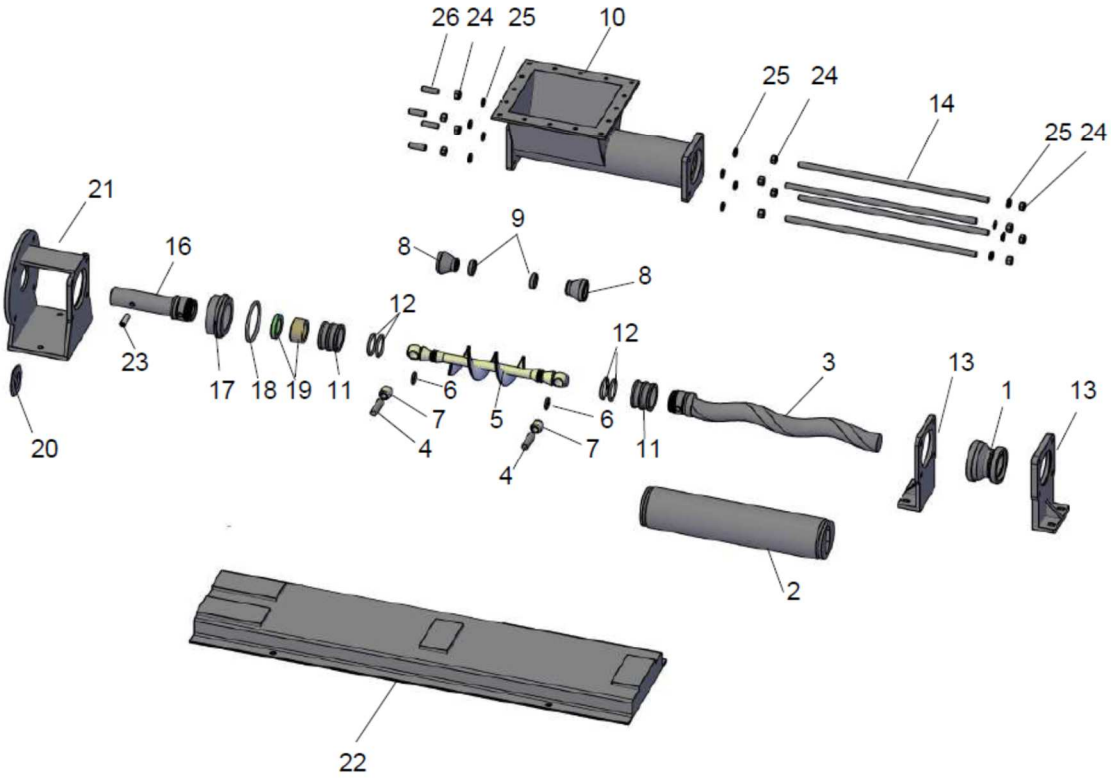
ATLAS WSM 53 spare part list drawing



ATLAS WSM 62 spare part list drawing

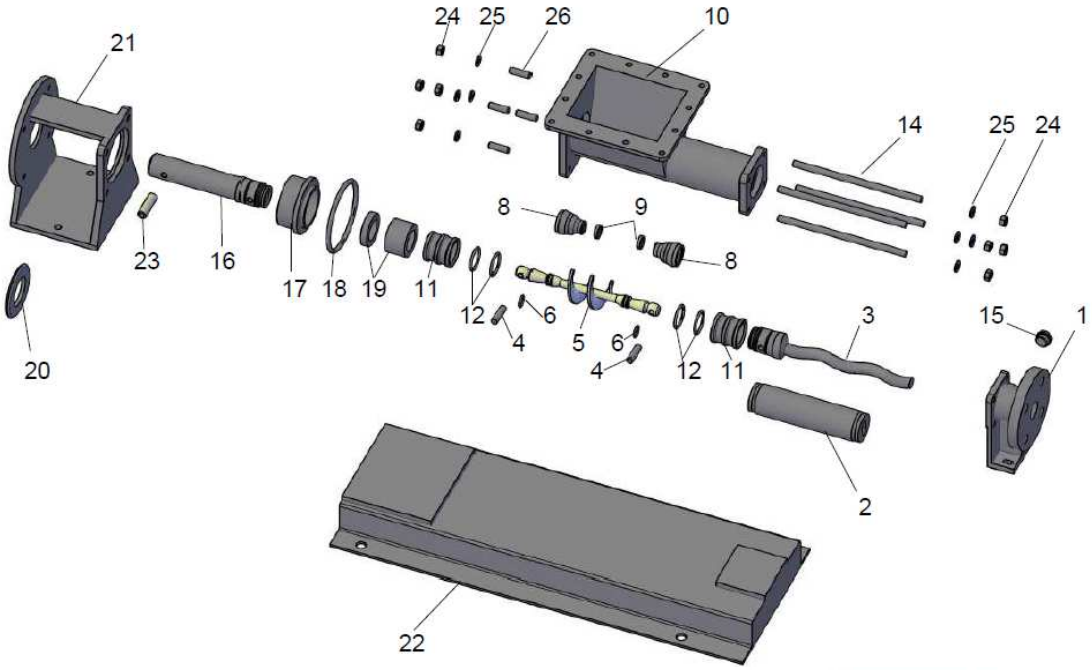


ATLAS WSM 63 spare part list drawing

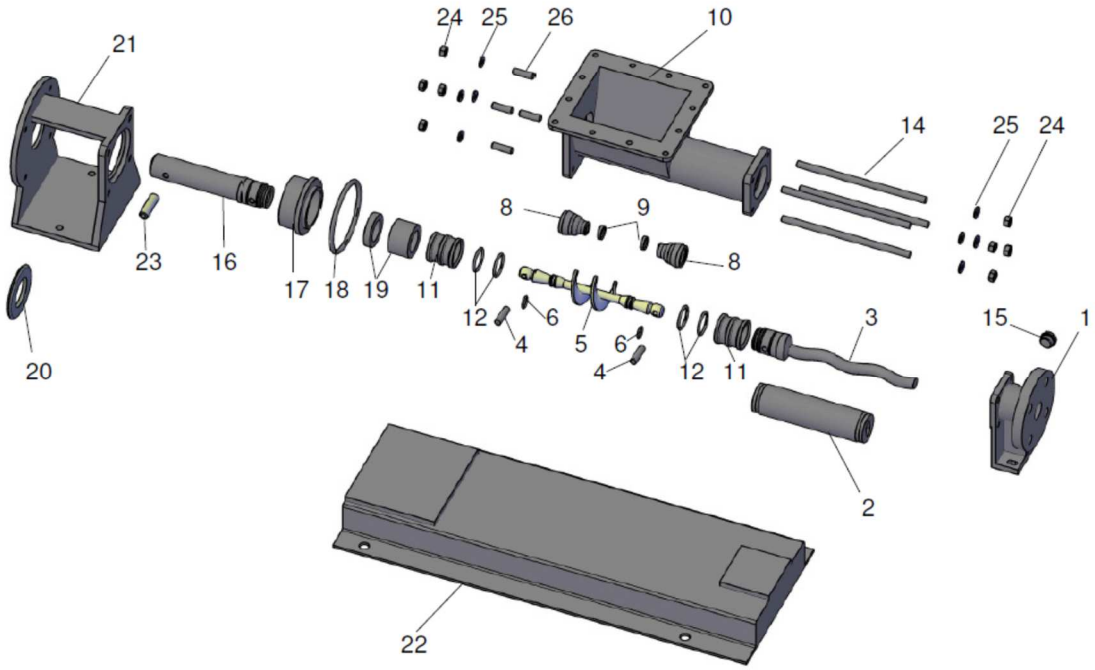


10.2 Exploded View WCM

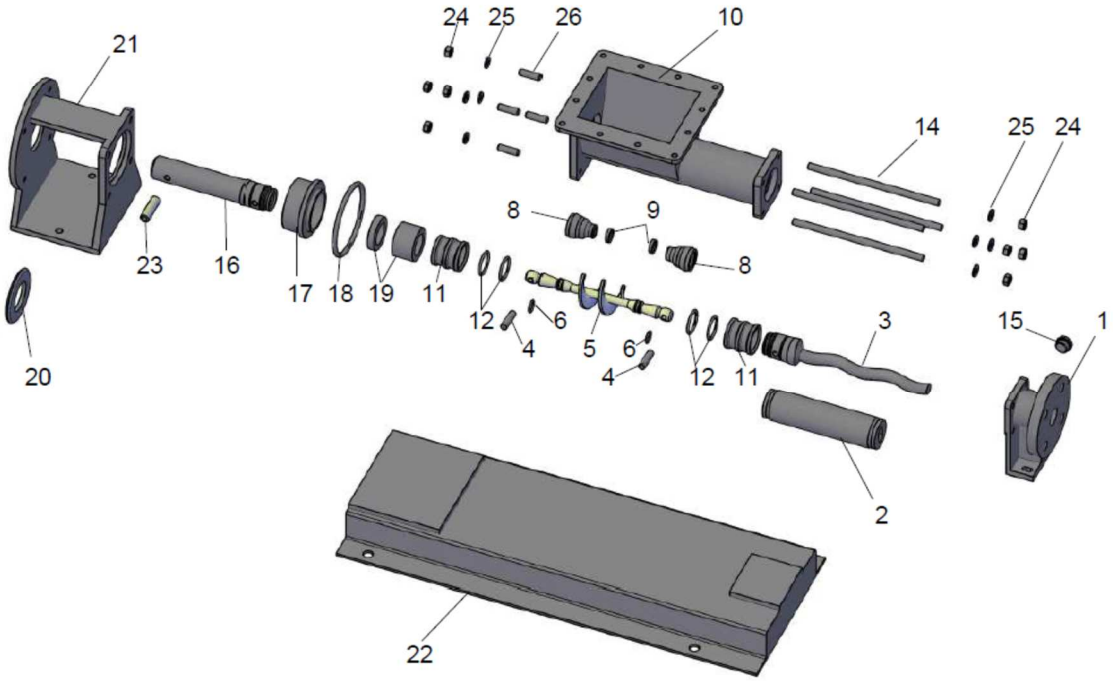
ATLAS WCM 21 spare part list drawing



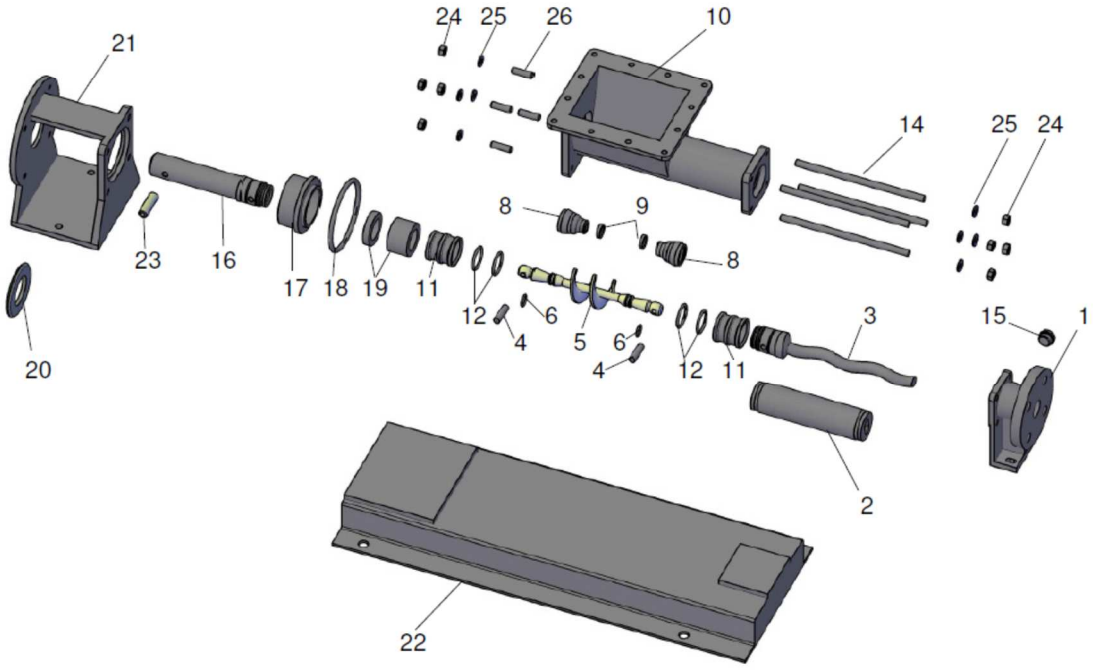
ATLAS WCM 22 spare part list drawing



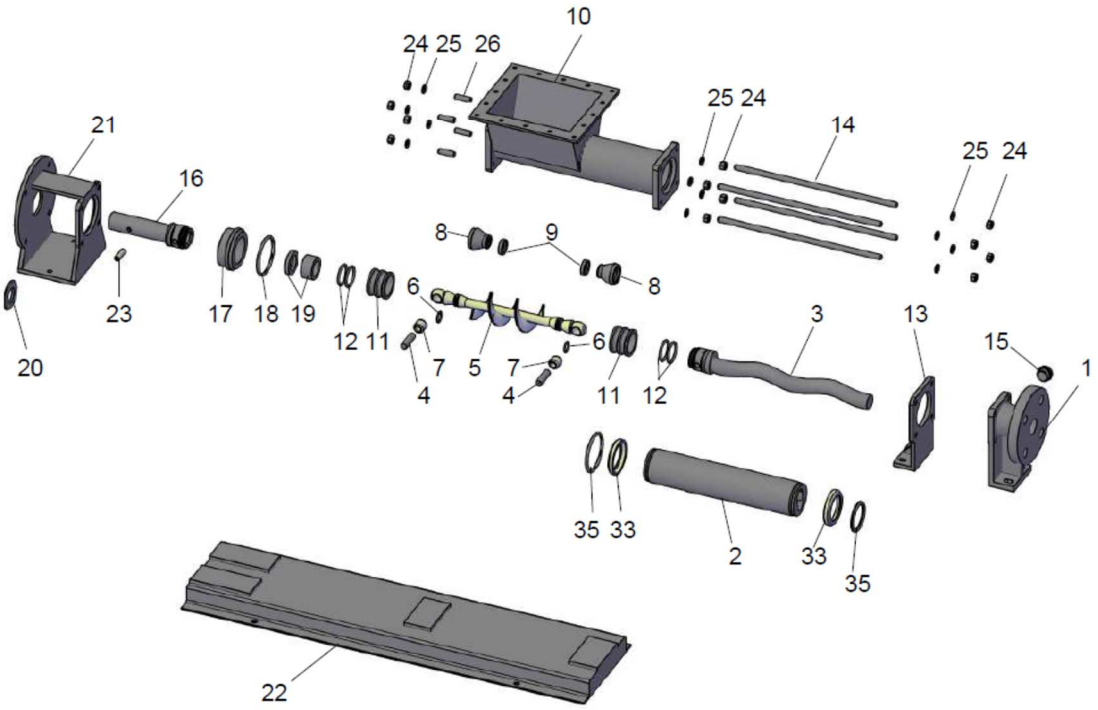
ATLAS WCM 31 spare part list drawing



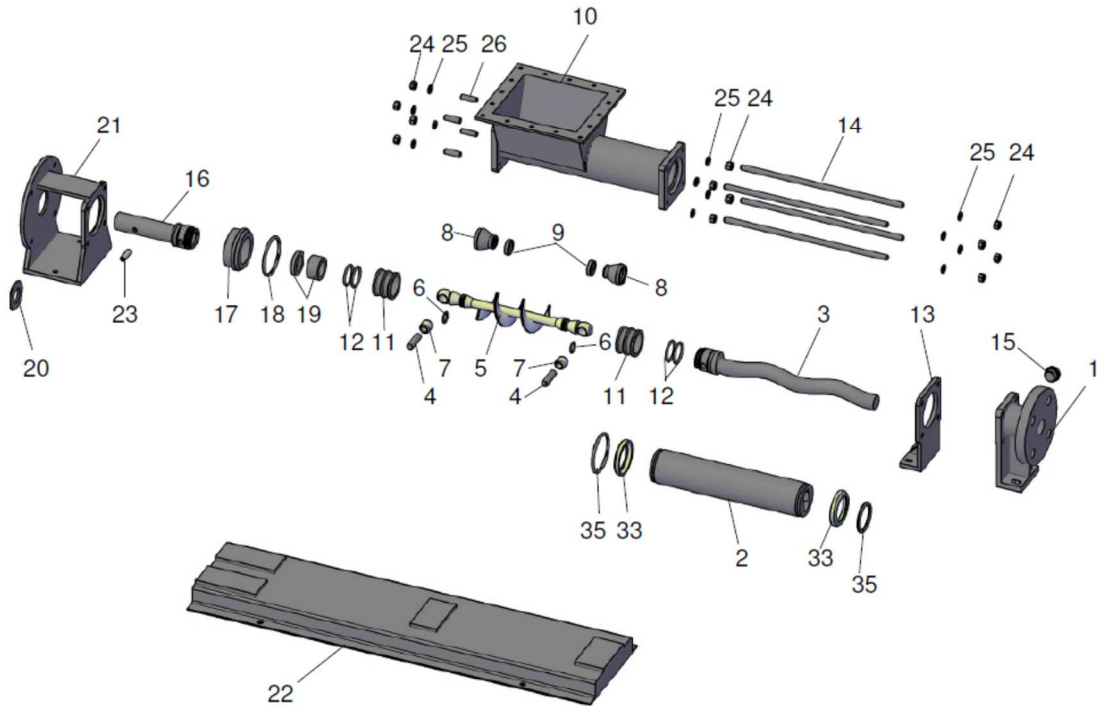
ATLAS WCM 32 spare part list drawing



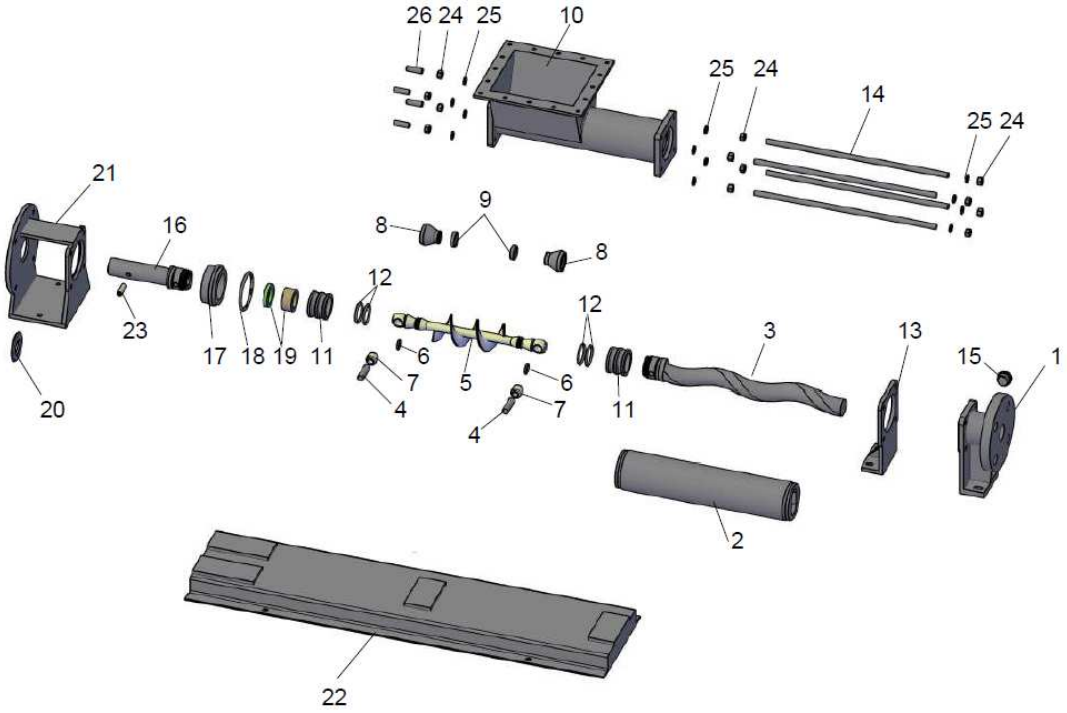
ATLAS WCM 38 spare part list drawing



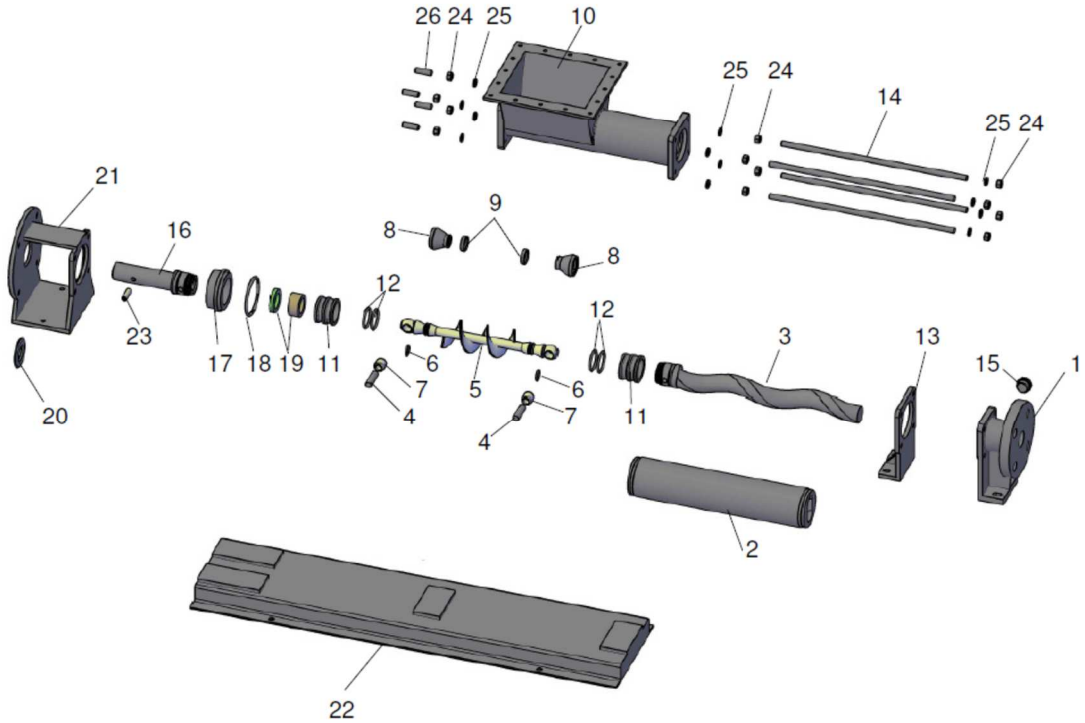
ATLAS WCM 42 spare part list drawing



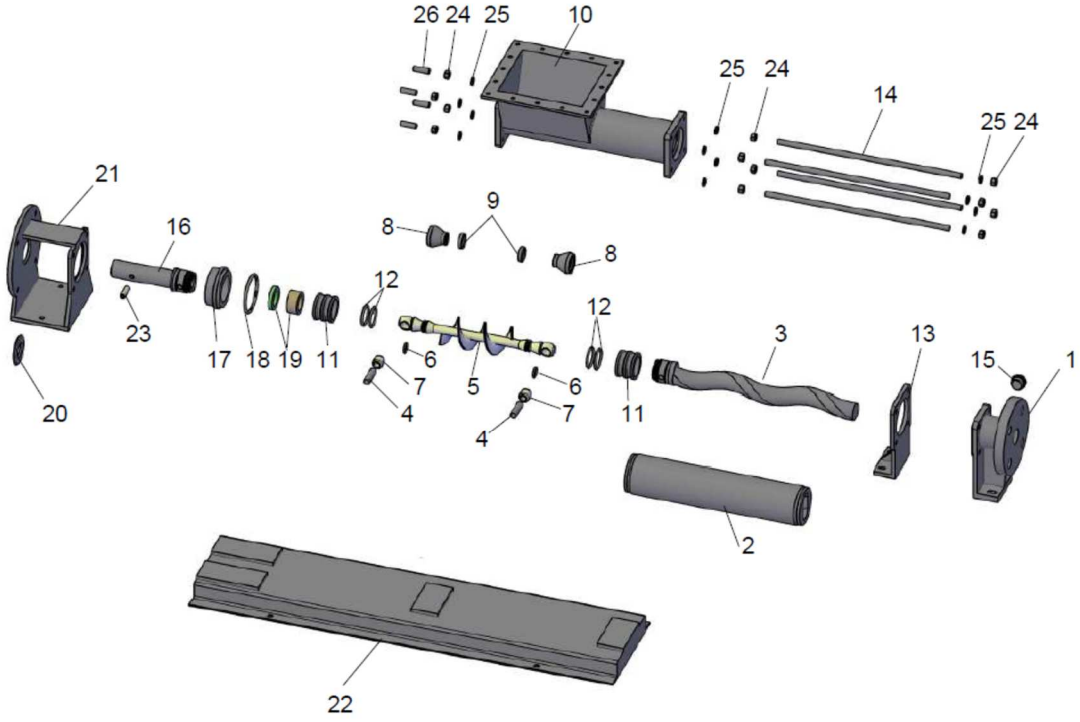
ATLAS WCM 45 spare part list drawing



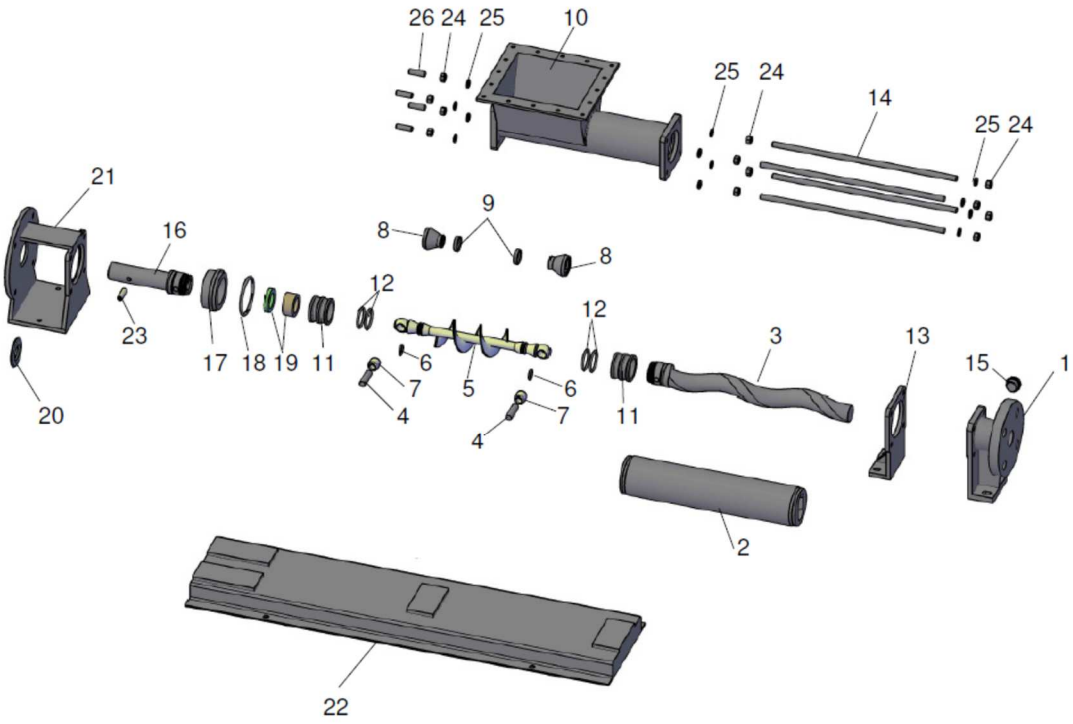
ATLAS WCM 52 spare part list drawing



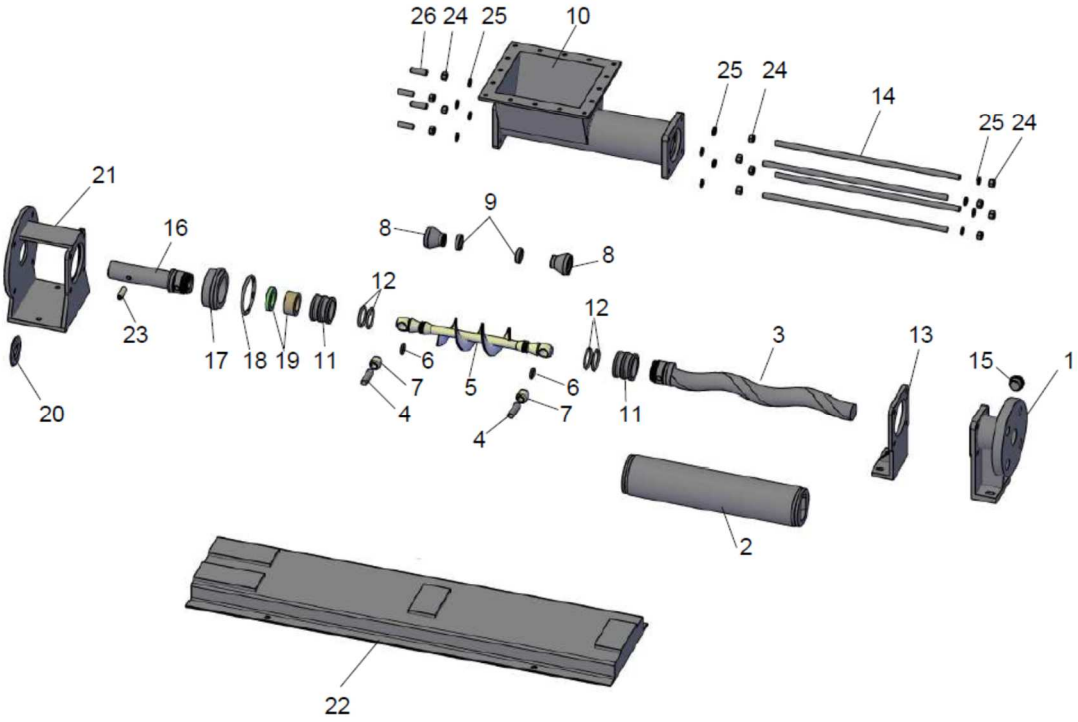
ATLAS WCM 53 spare part list drawing



ATLAS WCM 62 spare part list drawing



ATLAS WCM 63 spare part list drawing



ATLAS

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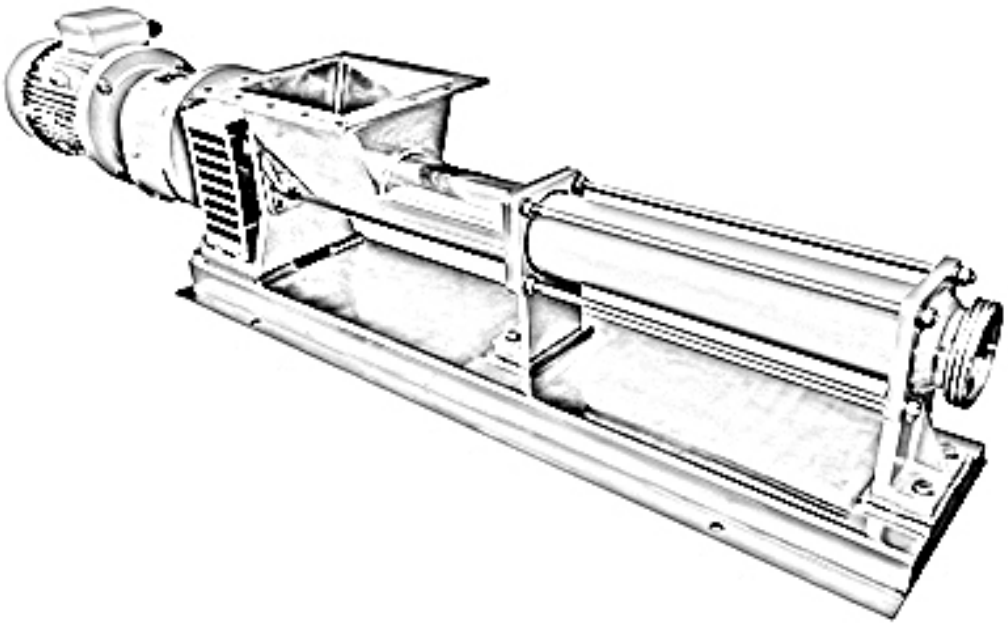

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