Schäffner

Atlas Copco

PF6 FlexSystem

The future of flexible production

Industry Challenges!

Today, customer needs and preferences are changing rapidly and manufacturers need to respond quickly with appropriate products. The cycle of product renewal is becoming shorter and traditional mass production is being challenged, especially with electrification and flexibility.

This is driving manufactures to search more effective ways of developing new technologies and new production lines in the most sustainable way.

Driving Innovation

Atlas Copco's Smart assembly technologies are ready to guide you through this new revolution, from the development phase to production. Overcome your production challenges with some of the most innovative systems on the market

- **Reduce** engineering effort
- **Accelerate** new product introduction and re-balancing
- **Improve** data analytics
- **Reduce** troubleshooting and maintenance time
- **Eliminate** line stops
- **Reduce** intensive training time
- **Decrease** inventory
- **Improve** overall equipment effectiveness (OEE)

Bring your traditional line into the future

Atlas Copco all-new PF6 FlexSystem is a fixtured controller that enables improved flexibility and higher productivity on the line

- Floor space -95%
- Cable length -85%
- Troubleshooting -85%
- Weight -90%
- Inventory -50%
- Energy consumption -25%
- Product introduction -50%
- Total cost of ownership -30%

Innovation is the key to staying competitive

Smart Connected Assembly supports Industry 4.0 becoming a reality. A reality where technology is easy to use and quickly delivers value.

- Increased uptime
- Reduction in defects
- New product introduction
- Improved productivity
- Human interaction
- Reduction in energy use

Compact size cuts costs

The new PF6 FlexSystem is designed to optimize the production line. The compact form factor means:

Reduce installation effort with less cables and infrastructure
System integration nearby a connected tool requires no cables, cable trays, or heavy labor efforts.

Reduce floor utilization and improve your operator and material flow
With its lean design, cleaning up around the workstation becomes a breeze.

Improve freedom on your moving fixtured machines
With its compact size that require less hanging cables, the PF6 FlexSystem become more flexible and lighter, improving ergonomics and work range.

Reduce troubleshooting time and increase OEE
With less components under stress, this modular plug-and-play controller increases your availability by more than 85%.

In conjunction with the most durable fixtured tools on the market today, our Application Centers have the ability to combine standard Atlas Copco aces-sories to innovate a customized solu-tion, such as a torque arm, wheel mul-tiple, and more.

We can standarize your solution and replicate it in any factory around the world with full Atlas Copco support!

Would you like to learn more about Global Projects at Atlas Copco?

Flexibility can reduce your cost and increase your uptime

What customer are saying?

“When I implemented the PF6 FlexSystem, I was able to extend the working range by another 5 meters! I have a ton of freedom on the line and no longer have to worry about cable management and troubleshooting.”

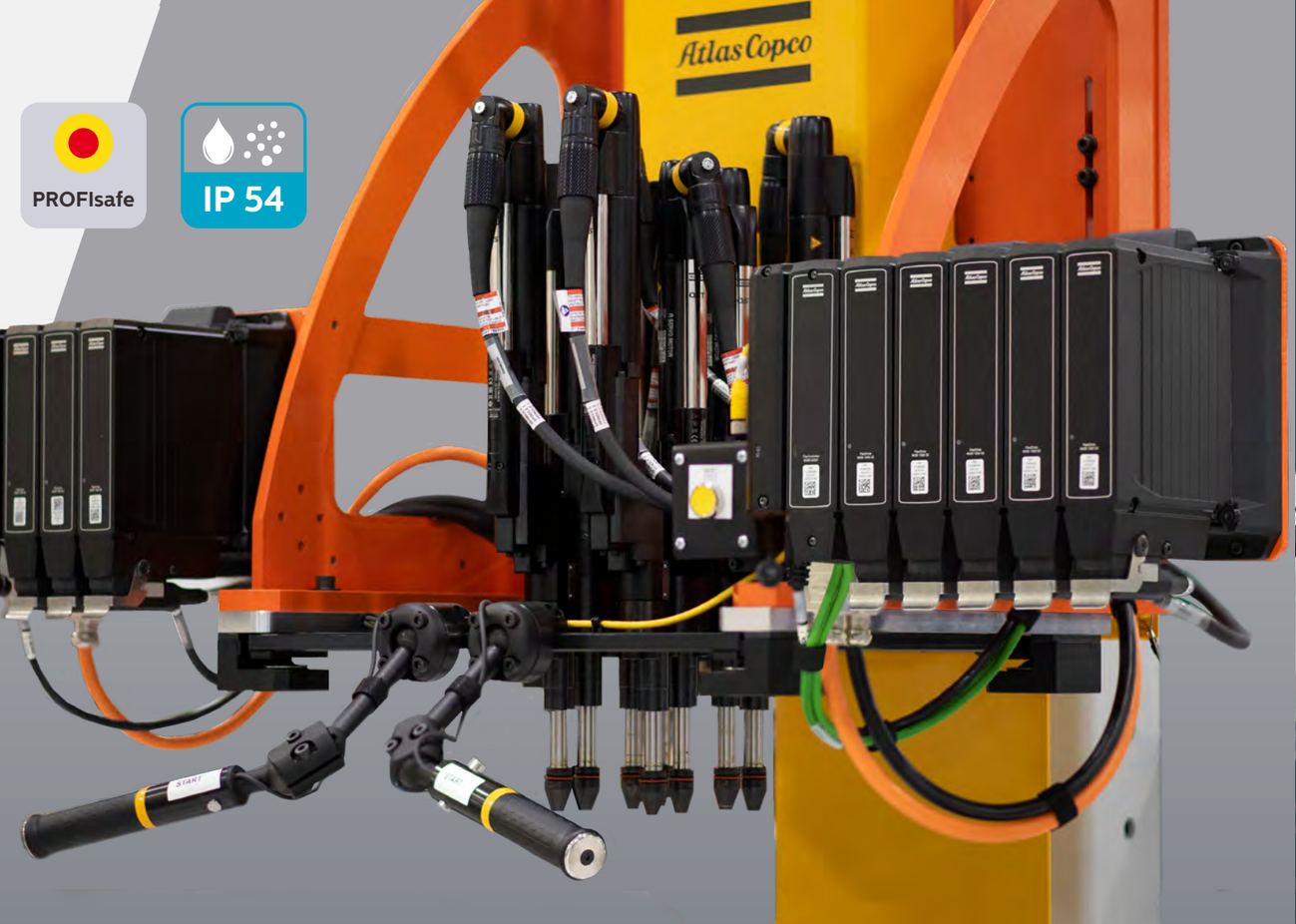
Increased uptime | Human interaction | New product introduction

Easy system integration

A modular PF6 FlexSystem reduce your engineering efforts, making the integration with line equipments easier and effective .

Improve your safety, while eliminate multiple cables and increase reliability and MTBF without worry about dirt or wet environments.

- Cable length -85%
- Installation time -50%
- Floor Space -95%



What happens if an assembly step fails and the product needs rework?

The PF6 FlexSystem, together with our Scalable Quality Solution (SQS) or Smart AMS software systems, offers the chance to create your own state-of-the-art error-proofing system.

Zero defect = no rework, no scrap, no warranty claims, no recalls

Being in control of your processes has never been so easy!!

Improve your processes with the FlexSystem and SQS or Smart AMS!

Result data collection | **Operator guidance** | **Part verification**

- Reduction in defects
- Human interaction
- Improved productivity

What customer are saying?

"I saved two whole installation days using the PF6 FlexSystem. The product is extremely fast and smooth. I also saved seven seconds in cycle times."

Looking to learn more about our SQS or Smart AMS software solutions?

High productivity with high flexibility

How can you increase flexibility without decreasing productivity?

New technologies are coming and production lines need to adapt fast to be able to provide cost-effective solutions. The PF6 FlexSystem is optimized for automation and robotic integration. With its lightweight, modular design and hot swap capabilities, you can reduce the amount of stations on the line, which increases productivity, flexibility as it reduces the total project cost.

This is flexible production... The future is here!

With hotswap capabilities, you can say goodbye to multi-stations that consume production time and floor space.

PF6 FlexSystem's flexibility allows hotswap of complete power-heads or different tool configurations keeping the same controller system.

Reduction in defects

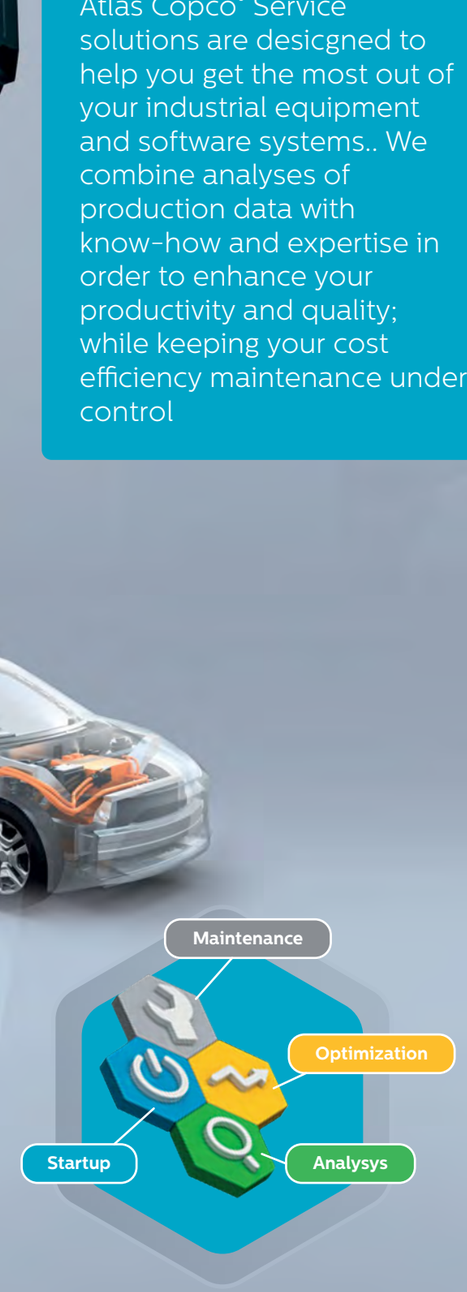
Human interaction

Improved productivity

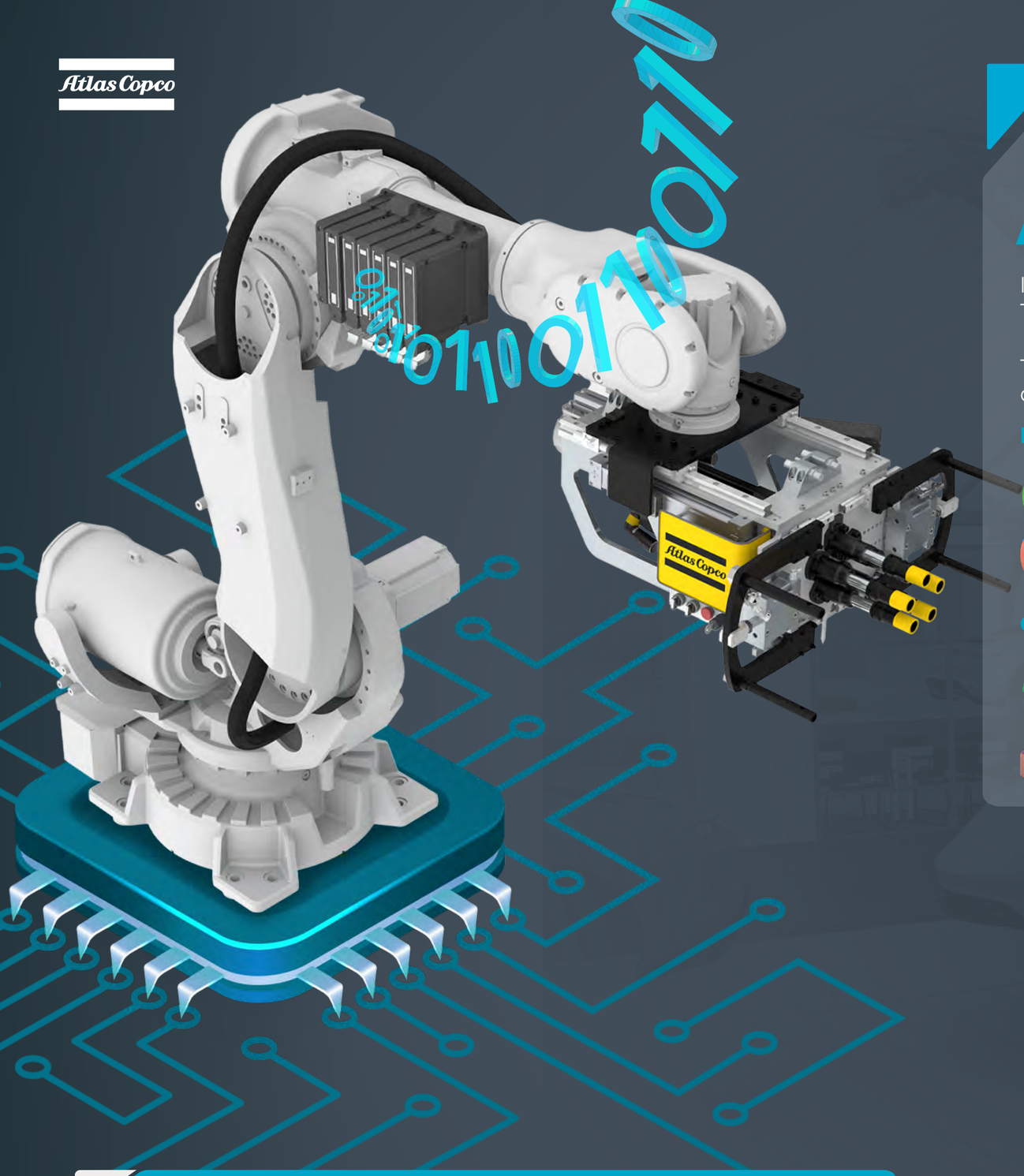
What the customer are saying:

"The PF6 FlexSystem hot swap capability significantly increases flexibility in my plant, reducing line space and saving $1.2M on my project!."

Atlas Copco° Service solutions are desicgned to help you get the most out of your industrial equipment and software systems.. We combine analyses of production data with know-how and expertise in order to enhance your productivity and quality; while keeping your cost efficiency maintenance under control



Do you want to know more about our Service solutions?



Are you ready for Industry 4.0?

Industry 4.0 goes further than simply connecting equipment and collecting data. The key factor is the abillity to generate useful values out of your data lake.

The TN8 user interface can be customized to support different departments and demands, significantly improving quality and efficiency on the line.

MOVE FROM REACTIVE TO PROACTIVE WITH TOOLSNET 8

- Customized Dashboard
- Real time analyze
- Alerts and reports
- Maintenance monitor

COMMON INTERFACE WITH TOOLSTALK 2

Take advantage of our simple, intuitive platform, ToolsTalk 2 which saves on training time, along with programming and analysis efforts. The PF6 FlexSystem shares a commom interface with Atlas Copco Power Focus 6000, the Power Focus 8, and our Tensor IxB Integrated controller tools!

Looking to learn more about our software solutions?

PF6 FlexSystem is designed with state of the art components for fully automated and robotic applications. It can endure high vibrations and accelerations up to 35Gs.
Our Automation Innovation Center is ready to design fully integrated PowerHEAD systems, including tightening, vision and engineering.

What the customer are saying:

"Atlas Copco full solution made my life easy! We reduced more than 50% our rework and scrap rates with the live dashboard where I am able to verify the quality of my production line in real-time."

- Reduction in defects
- Reduction in energy use
- Improved productivity

PF6 FlexSystem

Flex components

FlexCarrier

- AC-power, with fuse and distribution
- DC 24V power generation
- Emergency stop functions
- Supervision and fan control
- Supports flexible mounting

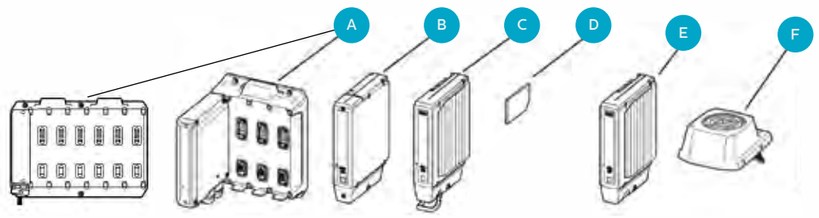
FlexController IP54

- USB 2.0
- Ethernet communication
- Communication with Fieldbus module
- PROFIsafe capability
- Real-time Clock (RTC) with backup (10 years)
- Fully isolated, external IO ports
- ProfiNet Controller
- Flex IAM

FlexDrive

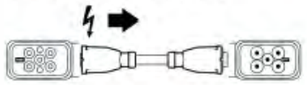
- Power supply for the motor
- Inrush and DC-bus monitoring
- 3-phase power stage and current measurement
- Tool interface driver and tool power supply
- Temperature sensor, power stage and analysis
- Class III emergency stop channel
- AC input-, DC bus- and Current-control
- Tool control
- Servo
- Power rectification
- Control board
- Tool cable port to spindle.

PF6 FlexSystem Components



A	FlexCarrier 3 slot	8436 1500 03
A	FlexCarrier 6 slot	8436 1500 06
B	FlexController Anybus	8436 1500 10
B	FlexController ProFISafe	8436 1500 01
B	FlexController CIPSafety	8436 1500 11
C	FlexDrive	8436 1500 02
D	FlexIAM Generic	8436 1500 21
E	FlexBlank	8436 1500 07
F	FlexFan	8436 1500 04

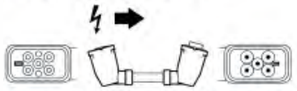
Power cables



(SE)

Length	Name	Articie number	Description
1 m	Power Cable	4222 1948 01	PF6 Flex SE 1m
2 m	Power Cable	4222 1948 02	PF6 Flex SE 2 m
3 m	Power Cable	4222 1948 03	PF6 Flex SE 3 m
5 m	Power Cable	4222 1948 05	PF6 Flex SE 5 m
10 m	Power Cable	4222 1948 10	PF6 Flex SE 10 m

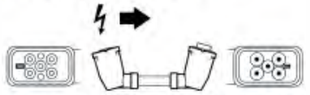
Power cable, right entry (RE)



Right entry (RE) power cables are used when the flexCarriers are mounted horizontally.

Length	Name	Articie number	Description
0.22 m	Power Cable	4222 1946 11	PF6 Flex LE 0.22m
0.365 m	Power Cable	4222 1946 12	PF6 Flex LE 0.365m

Power cable,left entry (LE)



Right entry (LE) power cables are used when the flexCarriers are mounted horizontally.

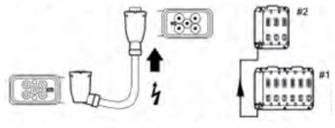
Length	Name	Articie number	Description
0.22 m	Power Cable	4222 2082 11	PF6 Flex LE 0.22m
0.365 m	Power Cable	4222 2082 12	PF6 Flex LE 0.365m

Power cable, straight to right entry (SRE)

Use straight to entry (SRE) power cables when the FlexCarries are mounted vertically top down, that is, the first FlexCarrier mounted adove second the FlexCarrier.

Length	Name	Articie number	Description
0.65 m	Power Cable	4222 2083 11	PF6 Flex SRE 0.65 m

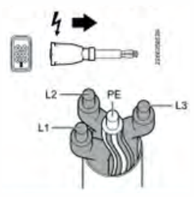
Power cable, right entry to straight (RES)



Use straight to entry (RES) power cables when the FlexCarries are mounted vertically bottom up, that is, the first FlexCarrier mounted below second the FlexCarrier.

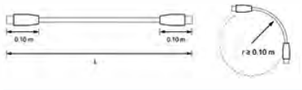
Length	Name	Articie number	Description
0.65 m	Power Cable	4222 2084 11	PF6 Flex RES 0.65 m

Power cable, open end (OE)



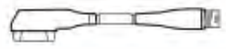
Length	Name	Articie number	Description
3 m	Power Cable	4222 1887 03 (EU) 4222 3147 03 (US) 4222 3189 03 (orange)	PF6 Flex OE-EU 3 m PF6 Flex OE-US 3 m PF6 Flex OE-orange 3 m
10 m	Power Cable	4222 1887 10 (EU) 4222 3147 10 (US) 4222 3189 10 (orange)	PF6 Flex OE-EU 10 m PF6 Flex OE-US 10 m PF6 Flex OE-orange 10 m
30 m	Power Cable	4222 1887 30 (EU) 4222 3147 30 (US) 4222 3189 30 (orange)	PF6 Flex OE-EU 30 m PF6 Flex OE-US 30 m PF6 Flex OE-orange 30 m

Control cables



Length(L)	Name	Articie number	Description
440 mm	Control Cable	4222 2062 01	PF6 Flex 440 mm
590 mm	Control Cable	4222 2062 04	PF6 Flex 590 mm
820 mm	Control Cable	4222 2062 03	PF6 Flex 820 mm
1 m	Control Cable	4222 2062 11	PF6 Flex 1 m
2 m	Control Cable	4222 2062 12	PF6 Flex 2 m
3 m	Control Cable	4222 2062 13	PF6 Flex 3 m
5 m	Control Cable	4222 2062 15	PF6 Flex 5 m
10 m	Control Cable	4222 2062 20	PF6 Flex 10 m

Tool Cables Flex tool Cables



Length	Name	Articie number	Description
1 m	Tool Cable Flex	4222 5272 01	PF6 Flex-QST 1 m
1,25 m	Tool Cable Flex	4222 5272 11	PF6 Flex-QST 1.25 m
1,5 m	Tool Cable Flex	4222 5272 12	PF6 Flex-QST 1.5 m
2 m	Tool Cable Flex	4222 5272 02	PF6 Flex-QST 2 m
3 m	Tool Cable Flex	4222 5272 03	PF6 Flex-QST 3 m
5 m	Tool Cable Flex	4222 5272 05	PF6 Flex-QST 5 m
7 m	Tool Cable Flex	4222 5272 07	PF6 Flex-QST 7 m
10 m	Tool Cable Flex	4222 5272 10	PF6 Flex-QST 10 m
15 m	Tool Cable Flex	4222 5272 15	PF6 Flex-QST 15 m

QST tool cable

The QST tool cable can used to extend the PF6 FlexTool cable from the tool to the FlexDrive.

Length	Denomination	Articie number
2 m	QST tool Cable	4220 3799 02
3 m	QST tool Cable	4220 3799 03
5 m	QST tool Cable	4220 3799 05
7 m	QST tool Cable	4220 3799 07
8 m	QST tool Cable	4220 3799 08
10 m	QST tool Cable	4220 3799 10

Length	Denomination	Articie number
4.5	QST Robotic Cable	4220 5399 04
5	QST Robotic Cable	4220 5399 50
5.8	QST Robotic Cable	4220 5399 05
7	QST Robotic Cable	4220 5399 70
10	QST Robotic Cable	4220 5399 10
15	QST Robotic Cable	4220 5399 15

Do you want to know more about QST fixtured spindles?

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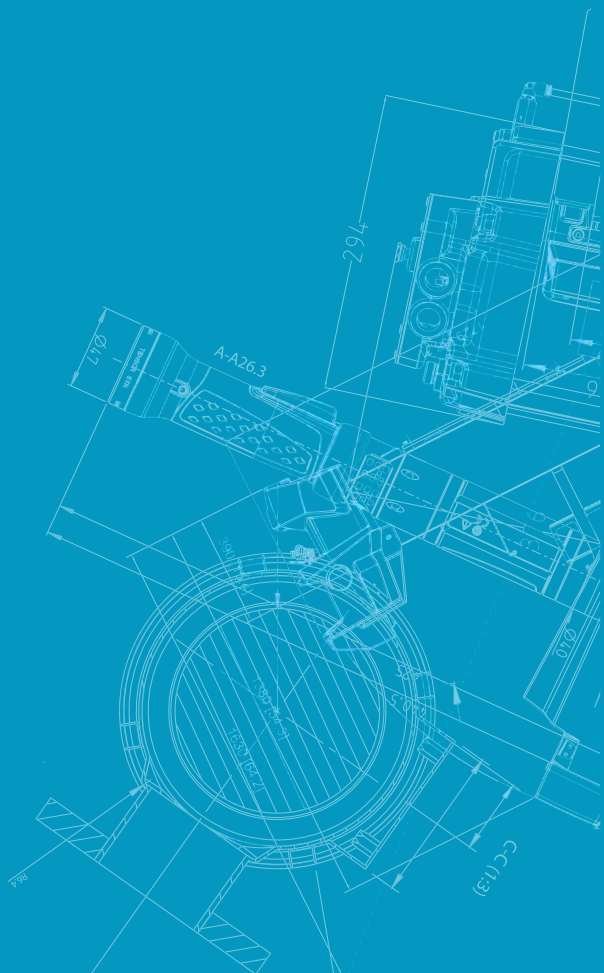
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