ARIS
STELLANTRIEBE
Brand of
KINETROL

Tensor 2

High-precision, multi-turn,
electronic actuator

New!

TENSOR 2 / TENSOR 2 HIGHSPEED:

+ Wi-Fi Module
+ CAN Bus Module
+ OLED Display

Tensor 2

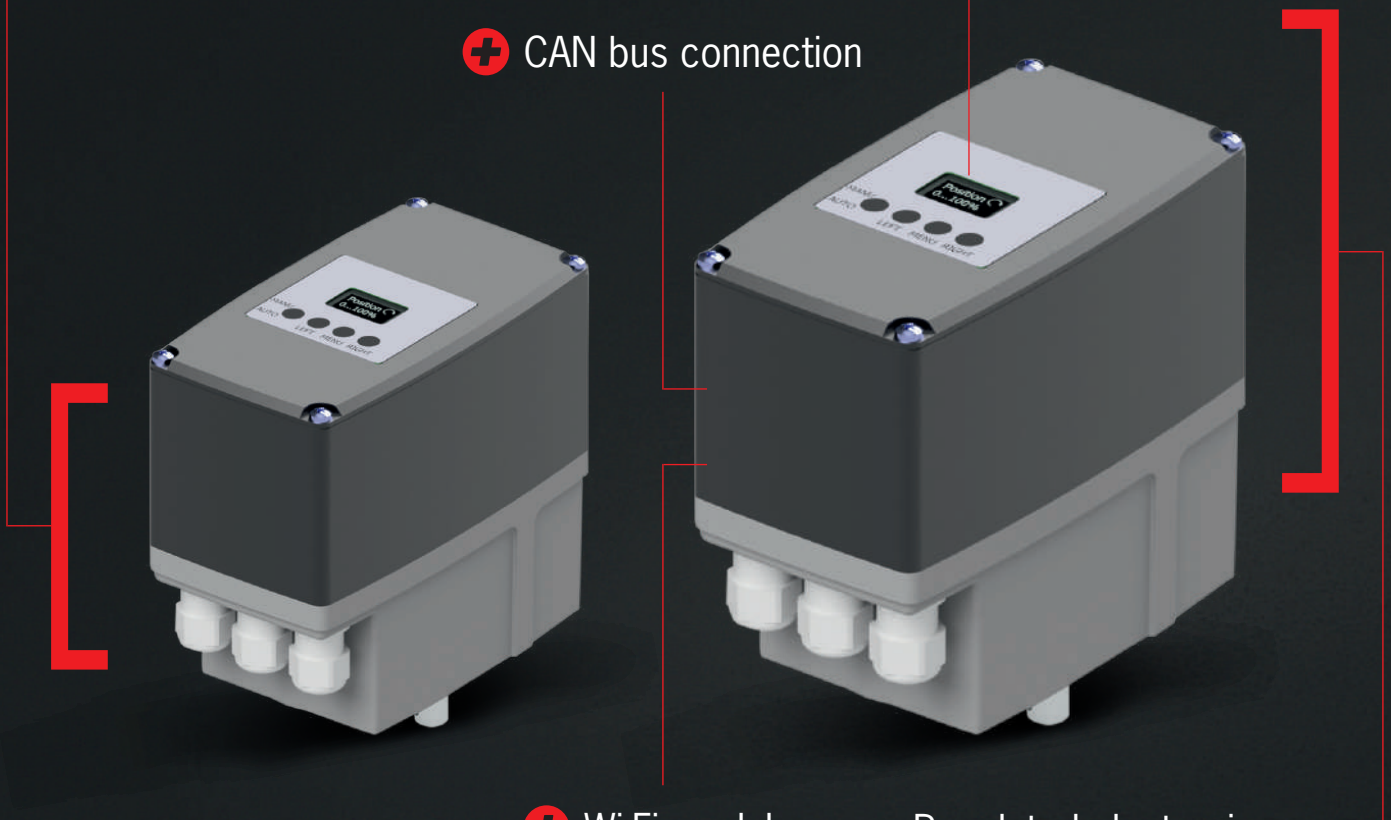
Product Catalogue

stellantriebe.de

Precision gear
with longer service life

OLED display

CAN bus connection



Wi-Fi module

Regulated electronics
with wear-free, absolute
position detection and
regulated BLDC motor

NOTE

While every effort has been made to ensure that all the data contained in this catalogue are correct, we assume no liability for incorrect or incomplete information. Subject to technical modifications. The circulation or duplication of this document and the use or communication of its contents are prohibited, unless expressly permitted. Images may vary from actual delivery. Images may include additional options.

TABLE OF CONTENTS

Tensor 2 – the actuator

General description and product features	04
Applications	06
The Tensor 2-series	08

Size S

Tensor 2 S	10
Tensor 2 S Highspeed	10

Size M

Tensor 2 M	12
Tensor 2 M Highspeed	12

Size L

Tensor 2 L	14
Tensor 2 L Highspeed	14

Tensor 2

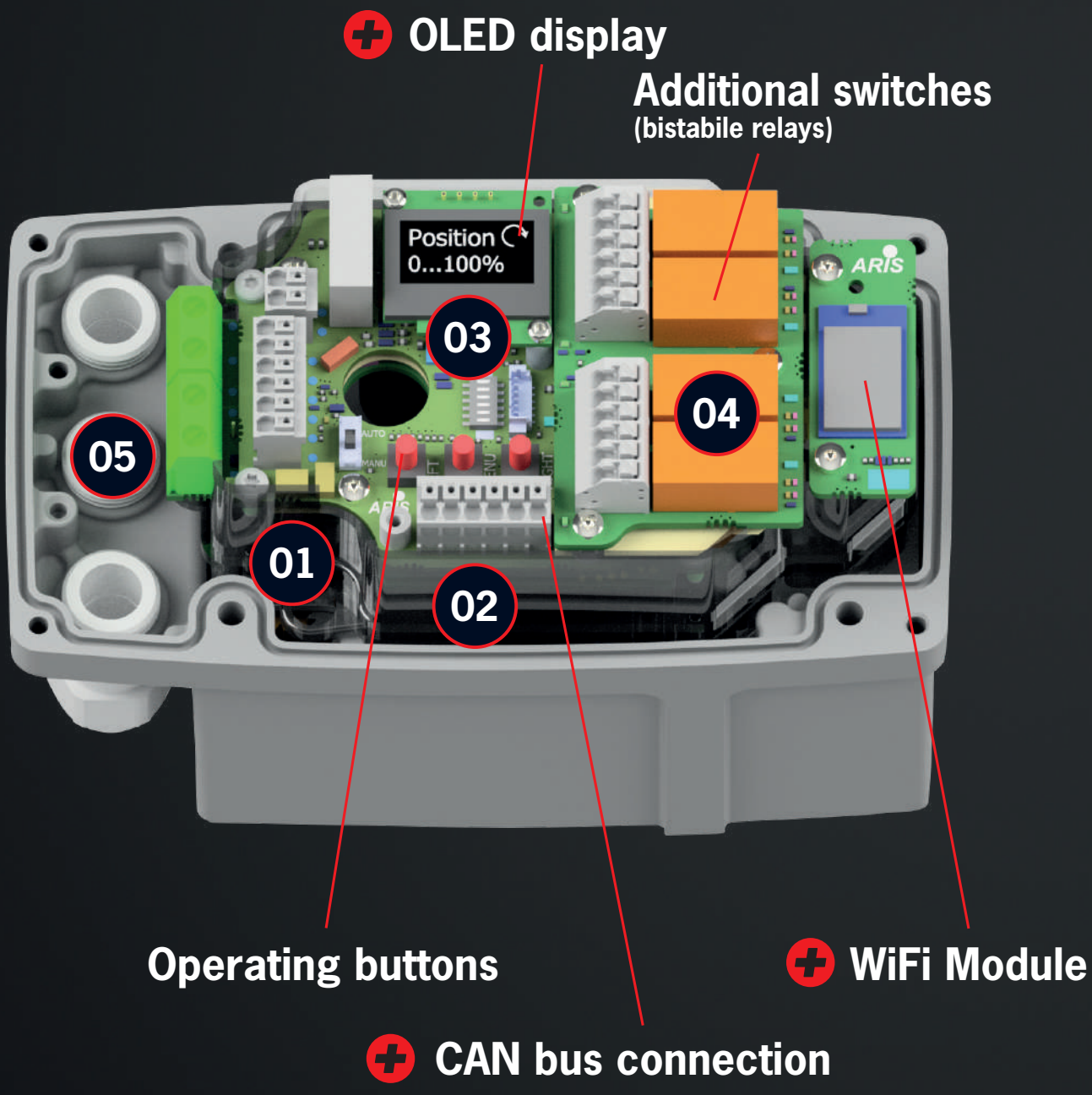
Options	16

Tensor 2 variants

Linearis TE 2	18
Ventaris TE 2	19
Tensor 2 Ex (Zone 1)	20
Tensor 2 Ex (Zone 2/22)	21
Tensor 2 complete units	22

TENSOR 2

Compelling arguments for a future-proof technology



NOTE
Images may include additional options.

Product Features To Date

> flexible travel
from 10° to 100 revolutions

> position detection accuracy up to 0.03°

> multi current power supply 85 265V AC
or 24V DC

> regulated torques and actuating times

> long service life (up to 259 x
over DIN EN 15714-2:2010-02)

> plug and play for options
(including retrofit)

> blocking system and overload protection,
ramps, special characteristic curves, etc.

New Features / Developments

Broadening of functional scope

> Wi-Fi module (option)

> Intelligent Torque Control System i-TC
with torque shut-off and
confirmation

> CAN bus module (option)

> keypad in the cover –
external operation (option)

New Features / Developments

Modernisation of the menu structure

> optimised menu guidance

> simplified navigation

> plain text display

> quicker start-up

Modernisation of the display – modern, multi-line OLED display instead of 7-segment display

Functionality can be expanded based on requirements (I-ACT controller, power output, potentiometer, CAN bus) using software validation codes

> no replacement of hardware necessary

> immediate availability – no delivery time

> functional enhancements can be
quickly and easily retrofitted at any time
using software validation codes

> torque and actuating time can be selected

> the performance data from the actuator can
be adjusted as required by the customer

> different torque/actuating time combinations
can be selected in the menu.The actuating
times and torque values can be set separa-
tely (and differently) for both rotation
directions. This means that it is also possible
to adjust the system to requirements on site

01
Precise and durable
Precision gear with high control accuracy and longer service life.
> Highly reliable

02
Backlash-free and wear-free
Contactless, high resolution and absolute position detection.
> Consistently high precision

03
Flexible and easy to use
Easy to configure using buttons and menu navigation.
> Quick start-up

04
Easy to expand
Options are simply connected up and automatically recognised.
> Future-proof
> Functional enhancements
can be enabled using a
software valdiation code

05
High contact protection
All electrical components are 100% covered.
> High degree of safety

TENSOR 2
Applications

Boiler systems

Industrial furnaces

Paint lines

Roasting

Dispensing technology

Industrial combustion

Biogas plants

Industrial ventilation

Smokehouses

Environmental technology

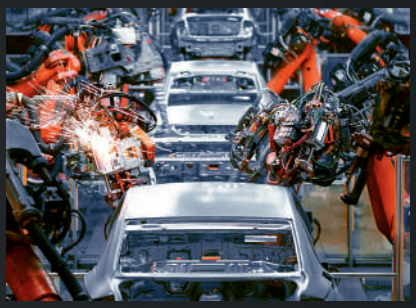
Silo and bulk material technology

Industrial valves

Food technology

Malting technology

Gas control systems

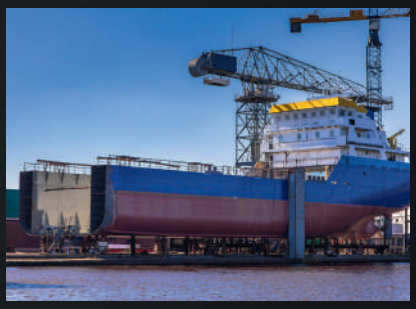


Vehicle construction

Solar technology

Chemical plants

Extinguishing systems



Shipbuilding

TENSOR 2

Technische Daten

Tensor 2

HIGHSPEED Tensor 2

Shared product features of Tensor 2 and Tensor 2 Highspeed

> Wi-Fi module (option)

> Intelligent Torque Control System i-TC with torque shut-off and confirmation

> CAN bus module (functional enhancement)

> keypad in the cover – external operation (option)

> optimised menu guidance

> simplified navigation, plain text display

> quicker start-up

> OLED display

> functionality can be expanded based on requirements (I-ACT controller, power output, potentiometer, CAN bus) using software validation codes

> no replacement of hardware necessary

> functional enhancements can be quickly and easily retrofitted at any time using software validation codes

Protection rating	**IP 66 / IP 67 (Tensor 2 with metal cover IP 66)**
Ambient temperature	**–15°C...+60°C (optional -20°C...+80°C)**
Housing	**Die-cast aluminium (EN AC-44200) powder-coated / Highspeed: anodised**
Gear	**Metal**
Cover	**Polycarbonate (aluminium optional) / Highspeed aluminium: die-cast**
Drive shaft	**1.4021**
Hand wheel	**External (optional)**
Position indicator	**Electronic**
Supply voltage	**85–265V AC (24V DC low voltage power supply optional)**
Additional switches	**2 or 4 bistable relays (optional)**
Potentiometer	**Electronic (optional)**
Travel	**10°...100 revolutions**
Duty cycle	**100 %**
Connection	**3 cable entries M16x1.5 / Highspeed 3 x M20x1.5**
Travel cut-off	**Electronic (wear-free)**
Maintenance	**Lifetime lubrication (maintenance-free)**
Control	**3-point step (optional controller 12 bit, bus,...)**

NOTE

Images may include additional options.

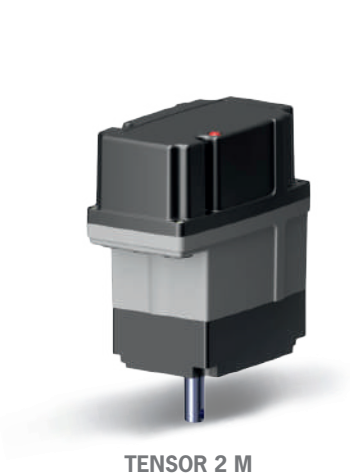
THE TENSOR 2 SERIES

Size S
(1 to 20 Nm)

TENSOR 2 S

TENSOR 2 S HIGHSPEED

Size M
(30 to 75 Nm)



TENSOR 2 M

TENSOR 2 M HIGHSPEED

Size L
(80 to 200 Nm)

TENSOR 2 L

TENSOR 2 L HIGHSPEED

SIZE S
for torques up to 20 Nm

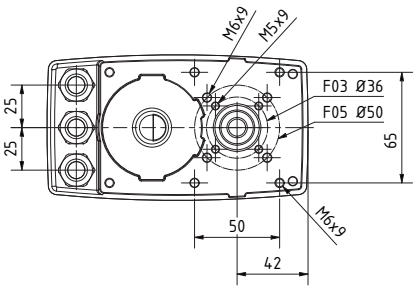
Also available as:
Tensor 2 Ex (Zone 1)
Tensor 2 Ex (Zone 2/22)

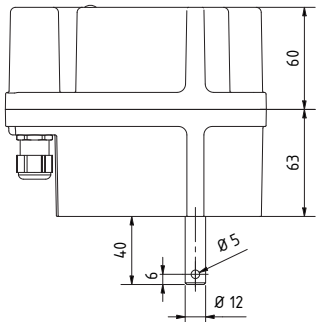
SIZE S

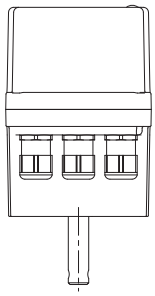
Torque (Nm)	Type	Actuating time (s/90°)							
5	Tensor 2 S HS	0,7	1	2	3	6	15	30	60
	Tensor 2 S			2	3	6	15	30	60
10	Tensor 2 S HS	0,8	1	2	3	6	15	30	60
	Tensor 2 S				3	6	15	30	60
15	Tensor 2 S HS			2	3	6	15	30	60
	Tensor 2 S				3	6	15	30	60
20	Tensor 2 S HS			2	3	6	15	30	60
	Tensor 2 S					6	15	30	60
Other actuating times on request		**Preferred types**							

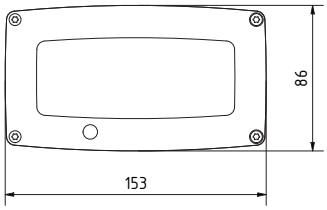
DIMENSIONS

TENSOR 2 S

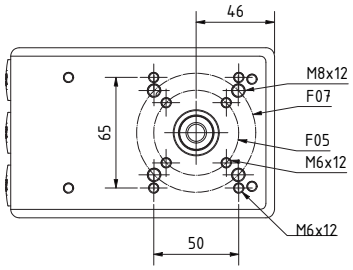


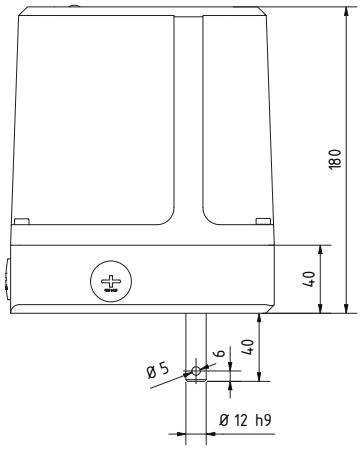


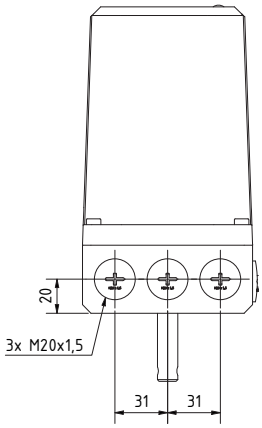


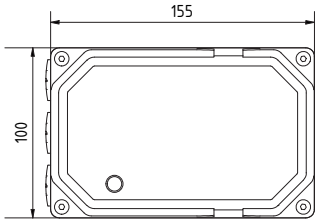


TENSOR 2 S HIGHSPEED



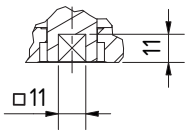




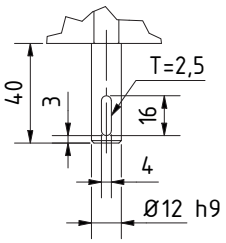


TENSOR 2 S and TENSOR 2 S HIGHSPEED

ISO shaft
inner 4-square



Round shaft
with feather key



SIZE M
for torques from 30 to 75 Nm

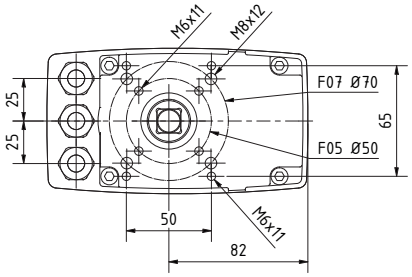
Also available as:
Tensor 2 Ex (Zone 1)
Tensor 2 Ex (Zone 2/22)

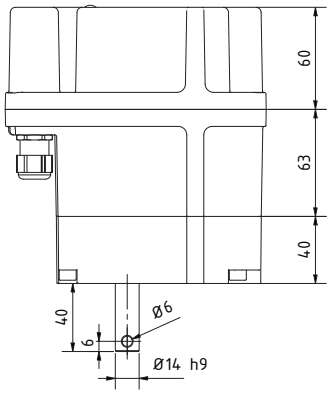
SIZE M WITH SPUR WHEEL

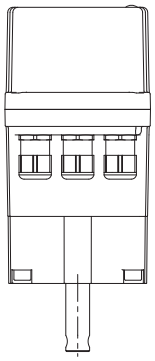
Torque (Nm)	Type	Actuating time (s/90°)							
30	Tensor 2 M HS	4	6	8	12	15	30	60	120
	Tensor 2 M			8	12	15	30	60	120
40	Tensor 2 M HS	4	6	8	12	15	30	60	120
	Tensor 2 M				12	15	30	60	120
50	Tensor 2 M HS		6	8	12	15	30	60	120
	Tensor 2 M					15	30	60	120
60	Tensor 2 M HS		6	8	12	15	30	60	120
	Tensor 2 M						30	60	120
75	Tensor 2 M HS			8	12	15	30	60	120
	Tensor 2 M							60	120
Other actuating times on request		**Preferred types**							

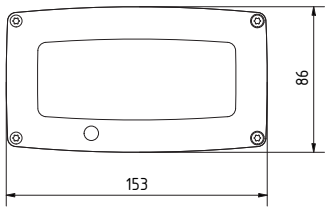
DIMENSIONS

TENSOR 2 M

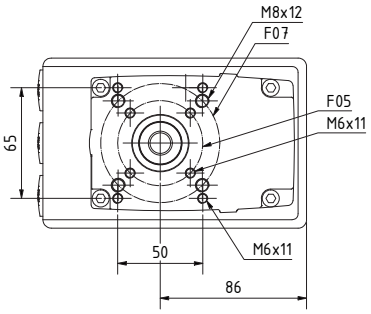


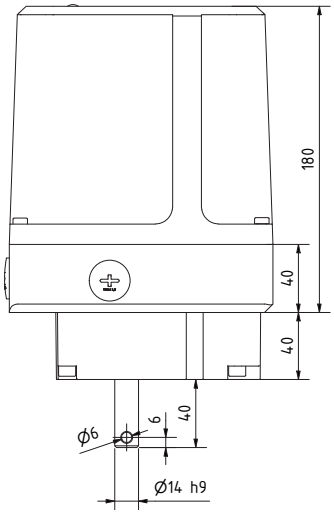


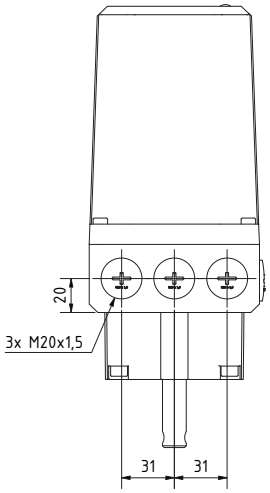


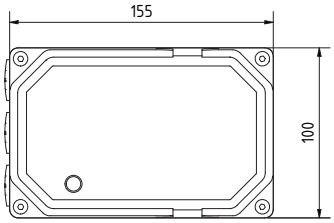


TENSOR 2 M HIGHSPEED



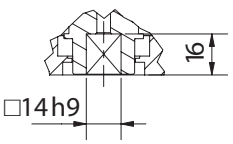




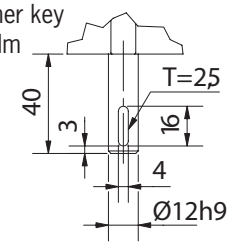


TENSOR 2 M and TENSOR 2 M HIGHSPEED

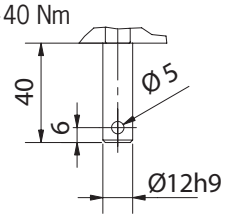
ISO shaft
inner 4-square



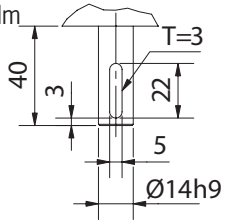
Round shaft Ø12
with feather key
30–40 Nm



Round shaft Ø12
with cross hole
30–40 Nm



Round shaft Ø14
with feather key
50–60 Nm



SIZE L
for torques from 80 to 200 Nm

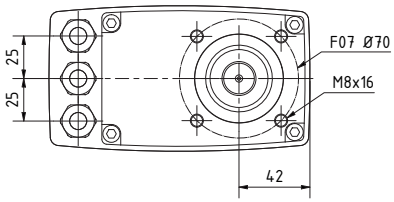
Also available as:
Tensor 2 Ex (Zone 1)
Tensor 2 Ex (Zone 2/22)

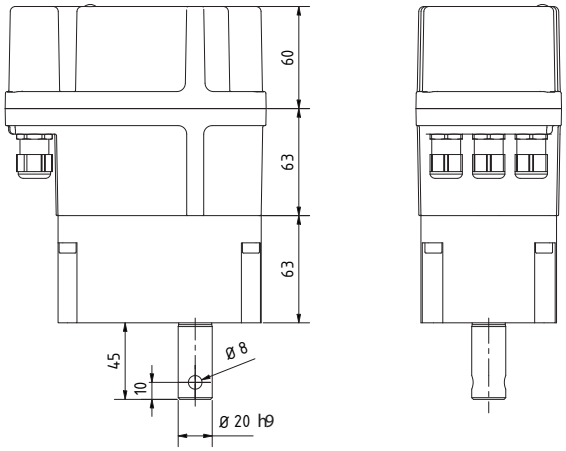
SIZE L WITH PLANETARY WHEEL

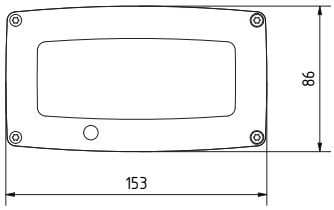
Torque (Nm)	Type	Actuating time (s/90°)							
80	Tensor 2 L HS	12	15	20	30	45	60	120	210
	Tensor 2 L				30	45	60	120	210
100	Tensor 2 L HS	12	15	20	30	45	60	120	210
	Tensor 2 L				30	45	60	120	210
120	Tensor 2 L HS	12	15	20	30	45	60	120	210
	Tensor 2 L					45	60	120	210
150	Tensor 2 L HS		15	20	30	45	60	120	210
	Tensor 2 L						60	120	210
180	Tensor 2 L HS			20	30	45	60	120	210
	Tensor 2 L							120	210
200	Tensor 2 L HS				30	45	60	120	210
Other actuating times on request		**Preferred types**							

DIMENSIONS

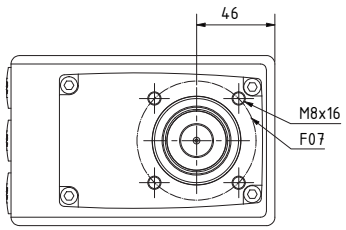
TENSOR 2 L

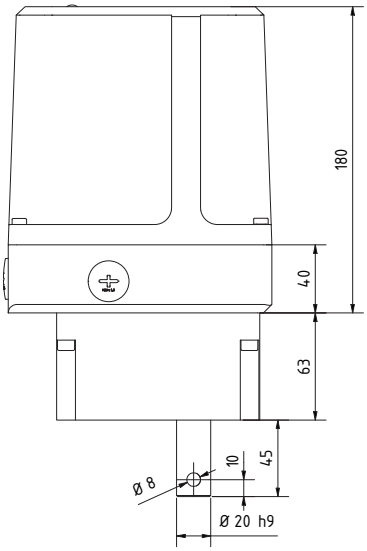


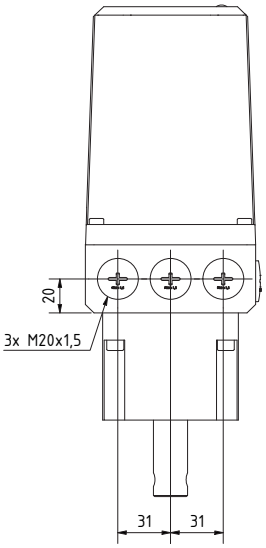


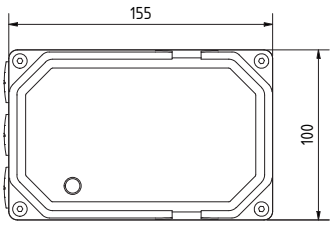


TENSOR 2 L HIGHSPEED



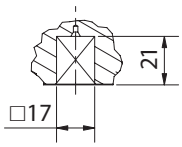




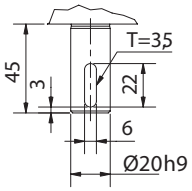


TENSOR 2 L and TENSOR 2 L HIGHSPEED
From 180 Nm

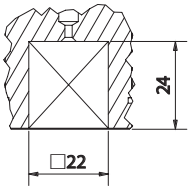
ISO shaft
inner 4-square



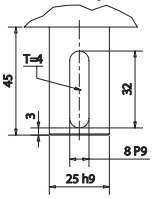
Round shaft
with feather



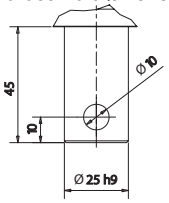
ISO shaft inner
4-square SW22



Round shaft with
feather key Ø25h9



Round shaft with
cross hole Ø25h9



TENSOR 2

Options (mechanical)

Option	Tensor 2	Tensor 2 Highspeed
Keypad in the cover	> programming, parameterization and operation from outside > programming menu display and position display	
Metal cover	> robust and impact-resistant industrial design made from aluminium > powder-coated > IP66 protection rating	> metal cover as standard > die-cast aluminium > powder-coated > robust industrial design
Hand wheel	> in the cover > not rotating with shaft > automatic disengaging	**Operator-friendly design** > larger diameter > with hand knob > not rotating with shaft > automatic disengaging **Compact design** > hand wheel on the side > not rotating with shaft > automatic disengaging
Gauge glass/ position indicator	 > OLED display visible from outside	 > OLED display visible from outside
M20 cable entry	 > adapter for M20 cable gland cable entry 3 x M20x1.5 with blind plug M20 cable glands optional	 > series: cable entry 3 x M20x1.5, blind plug M20 cable glands optional

TENSOR 2

Options / Functional enhancements (electronic)

The new ARIS Tensor 2 software allows the flexible use of additional electronic functions, which can be freely selected by the customer depending on the model ordered.

On the highest configuration level on I-ACT, the control modes ‘power output’, ‘potentiometer’ and ‘3-point step’ are always enabled and can be selected in the menu.

I-ACT positioner

> integrated in the internal system bus
> electronic positioner
> 12-bit system resolution
> setpoint inputs:
0(2) bis 10V DC
0(4) bis 20mA
potentiometer 10 kOhm
> actual value output:
0(2) bis 10V DC
0(4) bis 20mA
> fault message output as switch contact
> special functions that can be configured:
wire break detection; hysteresis; block protection
> includes ‘power output’, ‘potentiometer’ and ‘3-point step’ control modes

Power output

> integrated in the internal system bus
> position feedback
> 12-bit system resolution
> actual value output:
0(2) bis 10V DC
0(4) bis 20mA
> fault message output as switch contact

Potentiometer

> integrated in the internal system bus
> electronic potentiometer (voltage divider)
> 1 kOHm impedance
> auto-adjustment
> fault message output as switch contact
> electronic position indicator

CAN-Bus

> Control via CAN bus
> Different baud rates can be selected
> CAN bus position feedback, alternatively analogue outputs

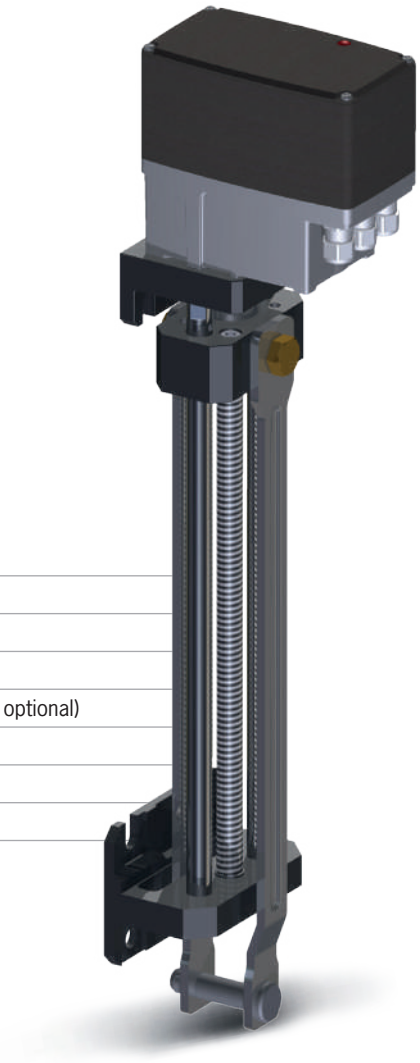
Additional switches

> add-on board
> integrated in the internal system bus
> additional auxiliary switches with freely programmable switch-on and switch-off points
> bistable switch state even with deenergised Tensor 2
> 2-way or 4-way version

TENSOR 2
Variants

Linearis TE 2 and TE 2 HS

> 40mm lead with optimised efficiency
  - fewer revolutions per stroke length
  - longer motor life
  - slow and quiet motor movement
  - low noise and minimal vibration
> holding torque via drive lock
> drive head can be replaced separately
> high-strength, anodized milled aluminium parts, corrosion-resistant
> long mounting slots facilitate quicker and easier installation
> maintenance-free due to dry run, no lubrication required, no dirt deposit on grease (longer service life)
> (dry) lubricants stored in ball screw nut
> easily interchangeable with earlier ARIS damper actuators
> high-quality 'dryspin® technology', spindle and nut by igus©



PROPERTIES

LINEARIS TE 2

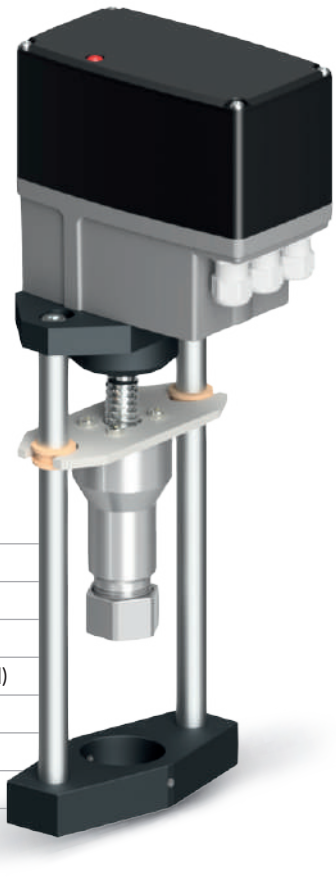
Actuating force	max. 5000 N (higher forces on request)
Actuating time	0,5 mm...16 mm/s (independent of load)
Travel	150/300 mm stroke (other strokes on request)
Voltage	85–265V AC (24V DC low voltage power supply optional)
Ambient temp.	-15°C...+60°C (optionally -40°C...+80°C)
Protection rating	IP 66 (IP 66/67) depending on type of drive
Duty cycle	100 %

LABS-free according to Daimler testing standard certified by Fraunhofer Institute.

TENSOR 2
Varianten

Ventaris TE 2 und TE 2 HS

> stainless steel trapezoidal threaded spindle Ø18
> spindle pitch 4mm/rev
  - precise positioning
  - actuator travel quiet and with minimal vibration
> self-locking of actuator via trapezoidal threaded spindle
> drive head can be replaced separately
> easy replacement of older ARIS valve units
> high strength, anodised milled aluminium parts combined with corrosion-resistant stainless-steel components
> flexible mounting options (direct, flange)
> maintenance-free due to dry run, no lubrication required, no dirt deposit on grease (longer service life)
> (dry) lubricants stored in ball screw nut
> high-quality 'dryspin® technology', spindle and nut by igus©

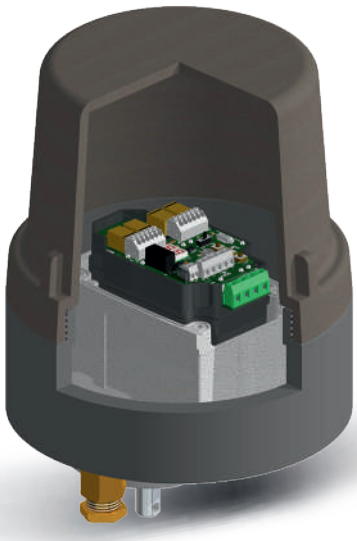


PROPERTIES

VENTARIS TE 2 AND TE 2 HS

Actuating force	max. 6000 N (higher forces on request)
Actuating time	0,1…1,6 mm/s
Travel	50 mm stroke (other strokes on request)
Voltage	85–265V AC (24V DC low voltage power supply optional)
Ambient temp.	-15°C…+60°C (optionally -40°C…+80°C)
Protection rating	IP 66 (IP 66/67) depending on type of drive
Duty cycle	100 %

TENSOR 2
Variants



Tensor 2 Ex (Zone 1)
Ex II 2G Ex d IIC T6 Gb
> for use in Zone 1, 2 and 22
> device categories 2G and 3G
> flameproof enclosure „d“
> suitable for gases with higher flammability „C“
> maximum temperature class T6
> for gases with ignition temperature > 85 °C

PROPERTIES

TENSOR 2 EX (ZONE 1)

Flange connection	ISO F05 and ARIS 65x50
Voltage	85–265V AC (24V DC optional)
Umgebungstemp.	–20°C...+60°C
Kabeleinführung	1x M20x1,5 bzw. 1x M20x1,5 + 1x M16x1,5
Housing	aluminium (painted), ground plate steel
Ex protection	Ex II 2G Ex d IIC T6 Gb
Protection rating	IP 65

TENSOR 2
Variants

Tensor 2 Ex (Zone 2/22)
Ex II 3G Ex ec IIC T4 Gc X (Zone 2)
Ex II 3D Ex tc IIIC T80°C Dc X (Zone 22)
Ambient temperature: –15°C ≤ Ta ≤ +50°C

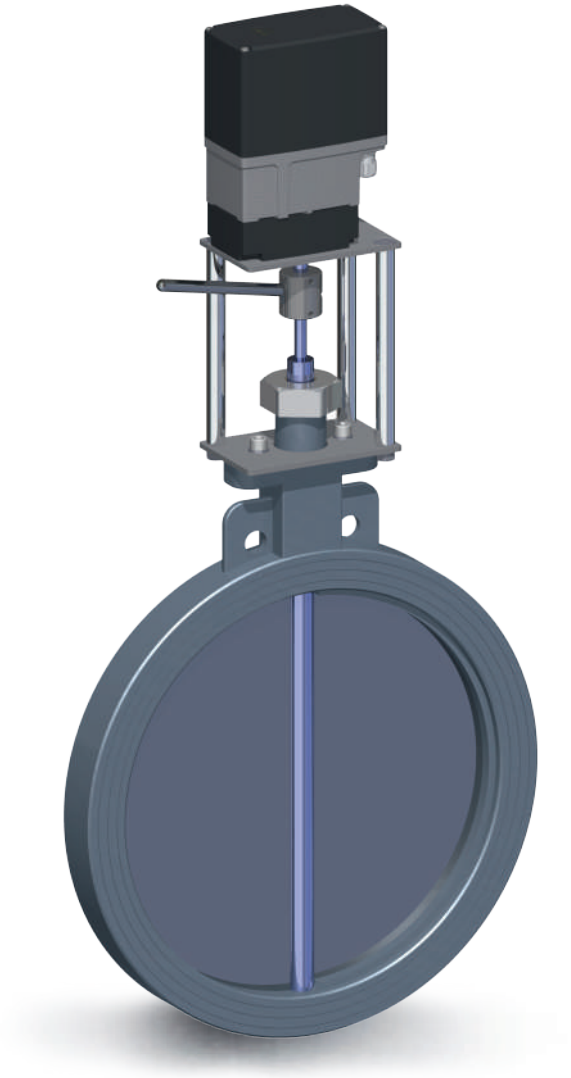
> compact design (identical to standard actuator)
> marginally higher price point than standard actuator, considerably less expensive than with flameproof enclosure
> suitable for Zone 2 or 22
> dimensions and technical specifications same as the standard actuator
> individually factory-tested to ensure high safety standard
> also available with hand wheel and gauge glass

PROPERTIES

TENSOR 2 EX (ZONE 2/22)

Flange connection	see Tensor 2
Voltage	85–265V AC (24V DC optional)
Ambient temp.	-15°C...+50°C
Cable entry	3x M16x1,5
Housing	die-cast aluminium (EN AC-44200), powder-coated
Ex protection class	II 3G Ex ec IIC T4 Gc X (Zone 2); II 3D Ex tc IIIC T80°C Dc X (Zone 22) Ambient temperature: -15°C ≤ Ta ≤ 50°C
Protection rating	IP 65

Tensor 2
Complete Units



In addition to high-quality actuators, ARIS also supplies robust industrial valves. On request, our engineers will configure a complete unit consisting of valve, connecting parts and actuator to your specifications.

The pre-assembled unit will be set to the required parameters and tested for optimal functionality. We will then ship the complete unit, securely packed together with all the relevant documentation, to your requested address ... to any location worldwide.

ARIS – **Your specialist for modern actuator and valve technology 'made in Germany'.**

PUBLISHED BY
ARIS Stellantriebe GmbH
Rotter Viehtrift 9
D-53842 Troisdorf

KONZEPTION & DESIGN
RSB Design GmbH
Berthold-Beitz-Boulevard 492
45141 Essen

STATUS
REV_02_06.22

Image credits page 6/7:
Cagkan Sayin/Shutterstock.com
Therina Groenewald/Shutterstock.com
Jenson/Shutterstock.com
SelgaFoto/Shutterstock.com
SelgaFoto/Shutterstock.com
Cergios/Shutterstock.com
Alexxxey/Shutterstock.com
Natascha Kaukorat/Shutterstock.com
lightpoet/Shutterstock.com
Salov Evgeniy/Shutterstock.com
EvijaF/Shutterstock.com
GolubSergei/Shutterstock.com
Surasak_Photo/Shutterstock.com
Roman Zaiets/Shutterstock.com
Martin M303/Shutterstock.com
Fly_and_Dive/Shutterstock.com
tonton/Shutterstock.com
cheetahok/Shutterstock.com
Rudmer Zwerver/Shutterstock.com

Your specialist for modern actuator and valve technology
for more than 40 years

ARIS Stellantriebe GmbH
Rotter Viehtrift 9
D-53842 Troisdorf

T. +49 2241 25186 - 0
F. +49 2241 25186 - 99
aris@stellantriebe.de

stellantriebe.de

Rev.02
2022