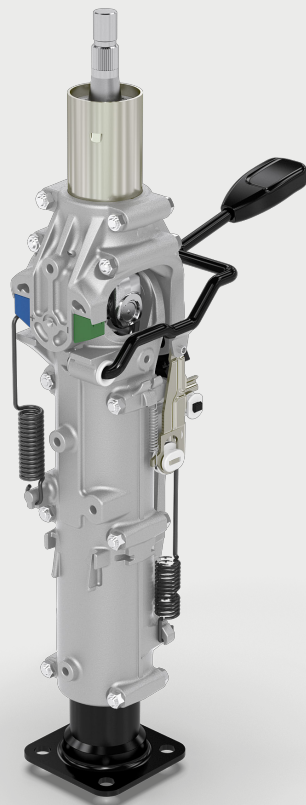


# STEERING COLUMNS



## AT A GLANCE

- > KA'S UNIQUE MODULAR, SELF-SUPPORTED DESIGNS
- > MODULAR BUILDING BLOCKS FOR TILT AND TELESCOPE FUNCTIONS
- > VARIABLE STEERING COLUMN LENGTH
- > VARIABLE POSITION OF TILT AND TELESCOPE
- > VARIABLE ANGLES FOR TILT FUNCTION AND STEP IN AND STEP OUT POSITIONS
- > TILT LOCKING SYSTEM, INCREMENTAL OR INFINITY LOCKING
- > TELESCOPE FUNCTION WITH INFINITE POSITIONING, LOW OR HIGH TELESCOPE POSITIONS COMPATIBLE WITH ALL TYPES OF STEERING WHEEL CONNECTIONS
- > SINGLE HAND LEVER, FOOT PEDAL OR CABLE OPERATED RELEASE
- > COMPATIBLE WITH ALL TYPES OF HYDRAULIC PUMP INTERFACES
- > VIBRATION DAMPING SYSTEMS
- > OPTIONAL DRIVER CONTROL MODULES, SWITCHES, HORN MODULE, COVERS AND DISPLAYS

## PRODUCT DESCRIPTION

Kongsberg Automotive offers a full range of fixed, tilt and telescopic steering columns, designed to withstand the most challenging environments for off-road vehicles. With our unique modular design, all columns provide best-in-class ergonomic working conditions for the driver.

### BENEFITS

- > Fully developed, tooled up and validated concepts
- > Minimal capital and design investment

- > High component commonality, enables short lead time on launches and modification
- > Unique modular design our steering column range enables best-in-class ergonomic working conditions for the driver
- > Highly experienced engineering and manufacturing team with over 20 years of market & product knowledge

Kongsberg Automotive offers completely tailored steering columns from our modular system according to customer specifications with full in-house design, development and validation services.

# STEERING COLUMNS



## PRODUCT SPECIFICATIONS

### FIXED AND TELESCOPE COLUMNS



**FIXED COLUMN  
F100**

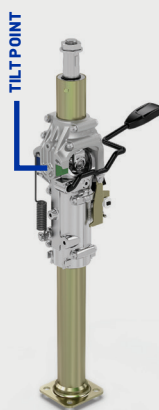


**TELESCOPE COLUMN  
T200**

### TILT COLUMNS



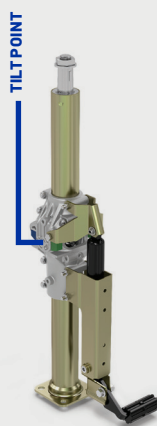
**LOW TILT COLUMN  
T350**



**TILT COLUMN  
T400**



**TILT COLUMN  
T425**



**TILT COLUMN  
T450**

## GENERAL SPECIFICATION

ALL COLUMNS CAN BE SPECIFIED BY CUSTOMER, INCLUDING:

- > COLUMN LENGTH (FROM 100MM TO 700MM)
- > CONNECTION TO STEERING WHEEL, Ø 20 AND 25 WITH DIFFERENT CONES AND SERRATIONS
- > TELESCOPE STROKE: 85MM
- > TOP TUBE DIMENSION 45 MM

## GENERAL SPECIFICATION

ALL COLUMNS CAN BE SPECIFIED BY CUSTOMER, INCLUDING:

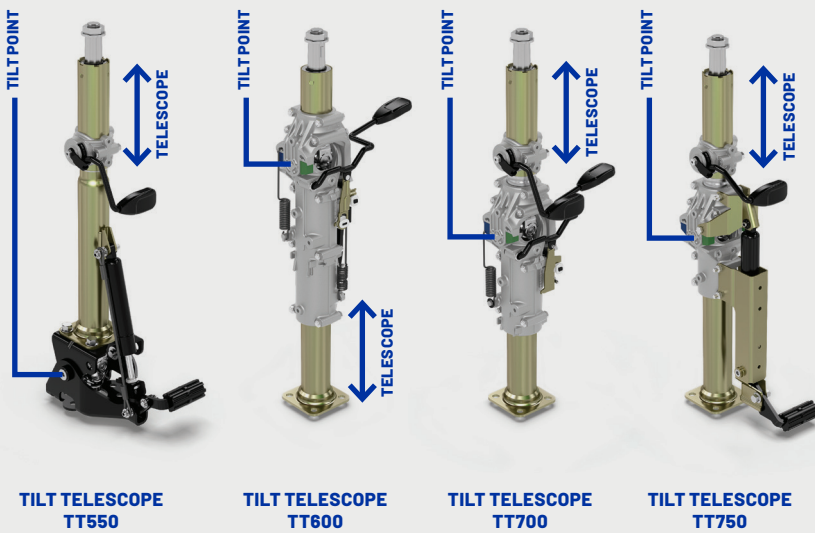
- > COLUMN LENGTH (FROM 100MM TO 700MM)
- > CONNECTION TO STEERING WHEEL, Ø 20 AND 25 WITH DIFFERENT CONES AND SERRATIONS
- > TILT ANGLE AREA:  $\pm 24^\circ$ , STEP IN / STEP OUT 36/52°
- > TOP TUBE DIMENSION 45 MM

# STEERING COLUMNS



## PRODUCT SPECIFICATIONS

### TILT AND TELESCOPE COLUMNS



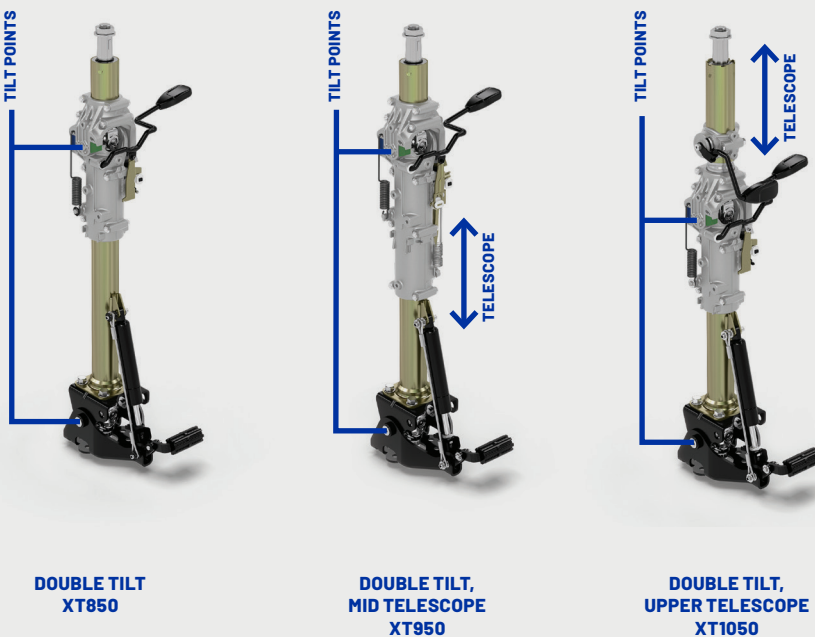
TILT TELESCOPE  
TT550

TILT TELESCOPE  
TT600

TILT TELESCOPE  
TT700

TILT TELESCOPE  
TT750

### DOUBLE TILT AND TELESCOPE COLUMNS



DOUBLE TILT  
XT850

DOUBLE TILT,  
MID TELESCOPE  
XT950

DOUBLE TILT,  
UPPER TELESCOPE  
XT1050

### GENERAL SPECIFICATION

ALL COLUMNS CAN BE SPECIFIED BY CUSTOMER, INCLUDING:

- > COLUMN LENGTH (FROM 100MM TO 700MM)
- > CONNECTION TO STEERING WHEEL, Ø 20 AND 25 WITH DIFFERENT CONES AND SERRATIONS
- > TILT ANGLE AREA:  $\pm 24^\circ$ , STEP IN / STEP OUT 36/52°
- > TELESCOPE STROKE: 85MM
- > TOP TUBE DIMENSION 45 MM

### GENERAL SPECIFICATION

ALL COLUMNS CAN BE SPECIFIED BY CUSTOMER, INCLUDING:

- > COLUMN LENGTH (FROM 100MM TO 700MM)
- > CONNECTION TO STEERING WHEEL, Ø 20 AND 25 WITH DIFFERENT CONES AND SERRATIONS
- > TILT ANGLE AREA:  $\pm 24^\circ$ , STEP IN / STEP OUT 36/52°
- > TELESCOPE STROKE: 85MM
- > TOP TUBE DIMENSION 45 MM

# STEERING COLUMNS



## STEERING COLUMN RANGE SUMMARY



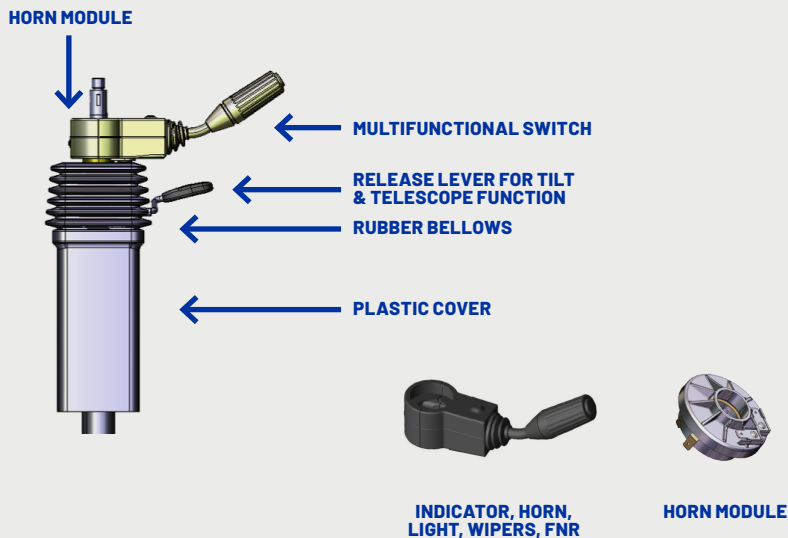
F100 T200 T350 T400 T425 T450 TT550



TT600 TT700 TT750 XT850 XT950 XT1050

## STEERING COLUMN FEATURES

- > KA COLUMNS ARE AVAILABLE WITH COVERS, BELLOWS AND A RANGE OF INTEGRATED SWITCHES AND SHIFTERS
- > SWITCHES CAN BE FIXED DIRECT TO THE STEERING TUBE AND POSITIONED WITH INDEX HOLE



## GENERAL SPECIFICATION

- > THE SPECIFICATION OF ALL STEERING COLUMNS IS ACCORDING TO ISO 5010 AND SAE J1814
- > ALL COLUMNS MEETS KONGSBERG AUTOMOTIVE PRODUCT SPECIFICATION FOR OFF ROAD VEHICLES, AGRICULTURAL TRACTORS AND CONSTRUCTION EQUIPMENT TEST AND VALIDATION
- > ALL COLUMNS ARE TESTED AND VALIDATED ACCORDING TO KONGSBERG AUTOMOTIVE PRODUCT SPECIFICATION AND ABOVE MENTIONED STANDARDS