

## Definition >>>

- TCS can allow for some displacement in axial direction through the gear box stem nut.
- Thus it can prevent damages to valve and gear box caused by excessive high load from outside.
- TSC can be separately attached to bevel gear and super gear box to play the role of buffer.
- The pressure inside TCS is pre-set higher than the valve thrust and it can prevent any movements at normal times.
- When thrust increases with the valve stem's thermal expansion, TCS device starts the absorption and compensation of the thrust.
- Apply for prefabricated stem nut. ▶ Excellent applicability.  
▶ Save maintenance cost.

## Structure >>>

TCS can be operated independently or engaged with a bevel gear and super gear box.

- Standard type is applied only in the CLOSED direction.
- Application in both directions may be considered as per requests.

## Technical Data >>>

• Please refer to the data below for maximum longevity and operating environment of TCS.

MODEL	Spring Stroke	MAX, Thrust	Pre Load		Usable Stroke	MAX, Stem
	mm		KN	mm		
TCS160	9,6	160	60	3,5	6,1	60
TCS220	9,6	220	84,5	3,5	6,1	68
TCS340	9,2	340	146	3,8	5,4	82
TCS400	11,8	400	160	4,5	7,3	96
TCS500	14,4	500	200	5,5	8,9	105
TCS600	15,4	550	270	6,0	9,4	110
TCS800	16	800	300	6,2	10	115
TCS1400	17	1,400	400	6,4	11	120
TCS2000	18	2,000	700	6,5	12	140
TCS3000	18	3,000	900	6,6	12	170

• Contact us if you exceed specifications or if you have a special environment.

Size and component specification in this catalogue are subject to change without prior notice for quality improvement.  
\* Mark has been changed and updated.



## Application >>>

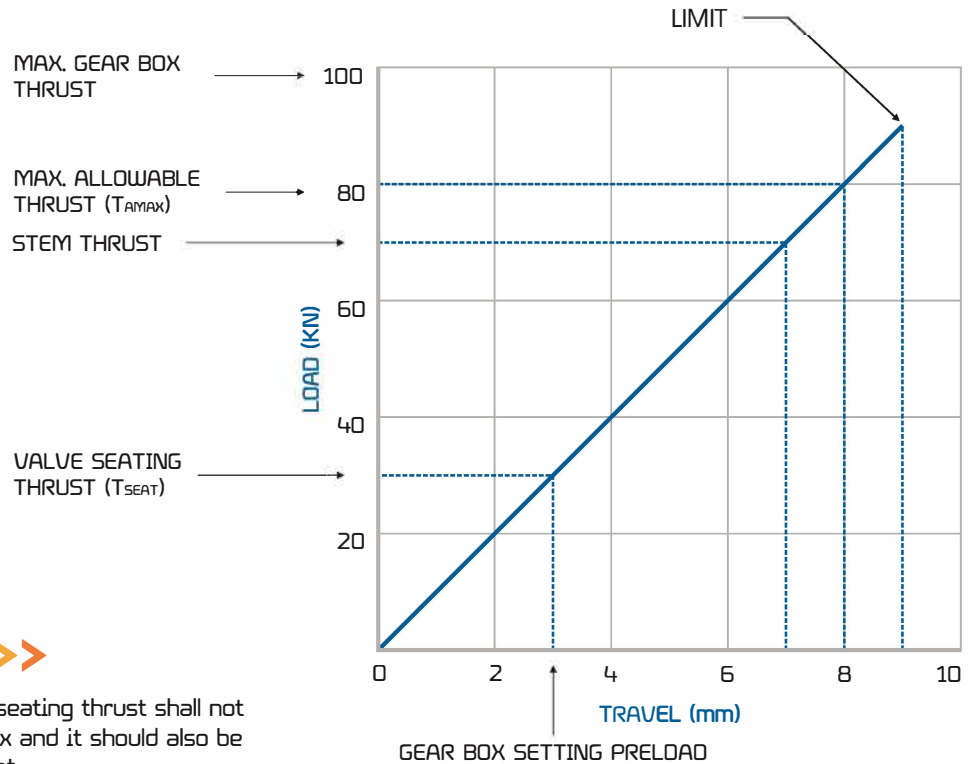
Required information for application of TCS device are :

- Valve seating thrust :  $T_{SEAT}$
- Maximum allowable stem thrust :  $T_{AMAX}$
- Length of stem expansion : L

## Remarks >>>

- As the inside of TCS is pre-set at considerably high pressure, it needs to be disassembled and operated with proper care.
- Please do not disassemble or re-assemble before consultation with our company or qualified experts :  
Disassembly & assembly to be done with special tools.

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## Selection of TCS >>>

- Maximum allowable thrust & valve seating thrust shall not exceed maximum thrust of gear box and it should also be below maximum spring displacement.  
: less than 60% of spring load.

## Example >>>

With 80KN of maximum allowable thrust, 30KN of Valve seating thrust & 4mm of stem expansion, what kind of TCS model is to be selected?

1. Check maximum load on the graph(select larger than maximum allowable thrust) : 100KN
2. Check the spring displacement of Valve seating thrust(the pre-set value of gear box) : 3mm
3. Length of stem expansion shall be smaller than maximum allowable thrust : 70KN
4. Select a model as per the curve on the graph satisfying all above conditions.
5. Decide temperature range, output RPM, etc.

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