

# CAM20-MT 2-in nominal interchanger multitrим choke valve

Readily adaptable to multiple trim types

## Where it is used

With its ability to easily be configured for multiple applications and evolving field conditions, the CAM20-MT 2-in nominal interchanger multitrим choke valve is an all-inclusive choke solution for shales and other applications.

## How it improves wells

This single choke platform enables you to configure the choke internally to match the changing conditions of the well, which often happens in shale operations. In the early postfrac stages of a shale gas well, there are personnel onsite who can implement the necessary frequent choke adjustments, trim change outs, and other services. Later in the well's life, when the service crews have moved to other wellsites, the choke can be easily automated by fitting it with a powered actuator, which enables completing adjustments remotely.

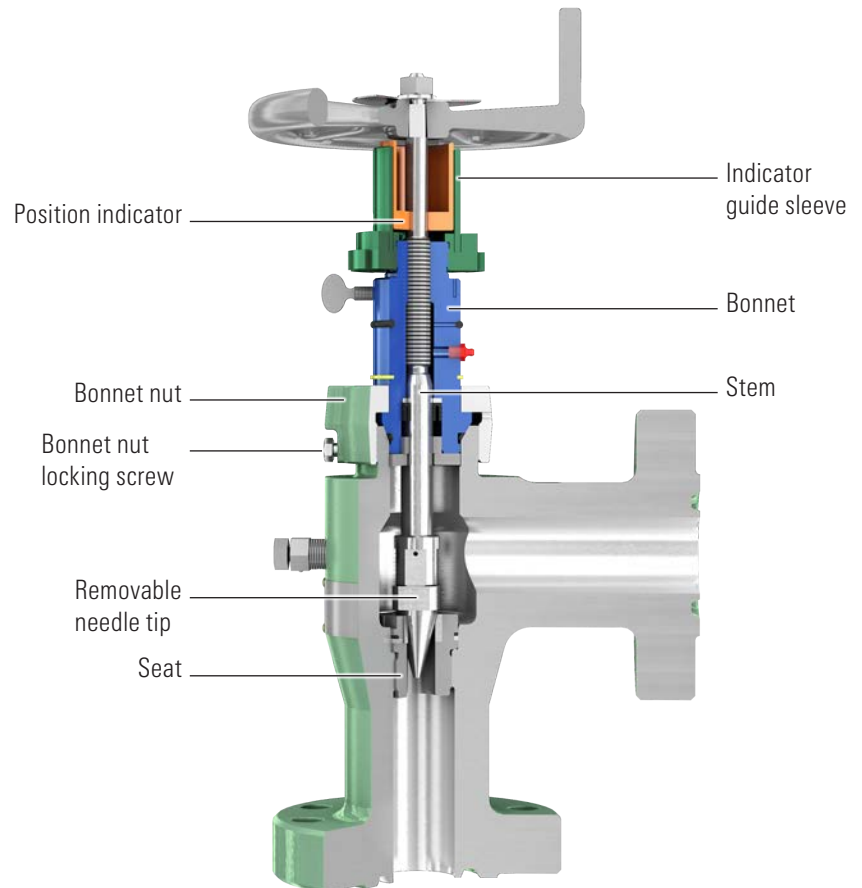
Both the CAM20-MT and CAM30-MT chokes can be easily updated from manual to actuated in the field with a conversion kit and while the choke is in service to minimize NPT. Other manufacturers require the operator to discard the bonnets during this process. Our patented system enables reuse of the bonnet assembly.

## Key features

- Up to 15,000-psi pressure rating as standard
- Standard flange and end connection options
- Common interface dimensions with H2\* needle-and-seat chokes
- Available alternative end connections and dimensions
- API Spec 6A material classes EE, FF, and HH
- API Spec 6A temperature classification over full P-U range
  - L-U: alloy (material classes EE and HH)
  - P-U: stainless steel (material class FF)
- Qualification to API Spec 6A Annex F PR2

## Standard trims

- Needle and seat (N&S)
  - 1.25-in diameter: 44.5 flow coefficient ( $C_v$ )
  - 1-in diameter: 28.5  $C_v$
  - 0.75-in diameter: 16  $C_v$
  - 0.50-in diameter: 7.1  $C_v$
- External floating sleeve (FS)
  - 1-in diameter: 23.5  $C_v$
- Positive bean (fixed orifice)



Replaceable needle tip.



External floating sleeve.

# CAM20-MT 2-in nominal interchanger multitrim choke valve

## Actuation options

- Manual handwheel
- Electric actuation
- Wired or SCADA wireless remote control
- Control and position feedback via 4–20 mA or multiple other protocols
- Pneumatic or hydraulic actuation

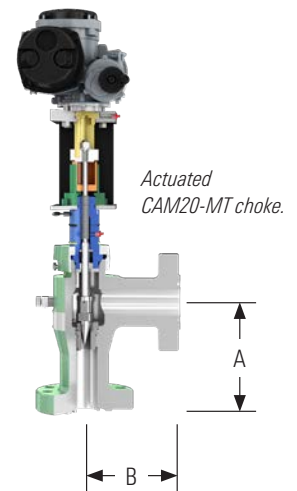
## Spares and maintenance

- Spares: trim kits, seal kits, replaceable needle tips
- Manual: actuation conversion kits
- N&S: FS cage trim conversion kits
- Conversion from positive to adjustable and vice versa

## Specifications

API Flanges Sizes, in		Max. Working Pressure (Gauge), psi	Dimensions, in [mm] <sup>†</sup>		Weight, lbm [kg]	
Inlet	Outlet		A	B	Manual	Actuated
2.0625	2.0625	5,000	8.00 [203]	6.875 [175]	122 [55]	175 [79]
API 5000	API 5000					
2.5625	2.5625	5,000	8.25 [210]	6.9375 [176]	128 [58]	181 [82]
API 5000	API 5000					
3.125	3.125	5,000	9.0563 [240]	9.6875 [246]	139 [63]	192 [87]
API 5000	API 5000					
1.8125	1.8125	10,000	8.81 [224]	7.69 [195]	96 [44]	190 [86]
API 10000	API 10000					
2.0625	2.0625	10,000	8.8125 [224]	7.6875 [195]	128 [58]	181 [82]
API 10000	API 10000					
2.5625	2.5625	10,000	9.3125 [237]	8.1875 [208]	134 [61]	187 [85]
API 10000	API 10000					
3.0625	3.0625	10,000	11.6250 [295]	10.3438 [263]	188 [85]	241 [109]
API 10000	API 10000					
1.8125	1.8125	15,000	10.37 [263]	9.19 [233]	311 [141]	405 [184]
API 15000	API 15000					
2.0625	2.0625	15,000	11.75 [298]	10.50 [267]	317 [144]	411 [186]
API 15000	API 15000					
2.5625	2.5625	15,000	11.75 [298]	10.50 [267]	349 [158]	443 [201]
API 15000	API 15000					
3.0625	3.0625	15,000	11.75 [298]	10.50 [267]	408 [185]	502 [228]
API 15000	API 15000					

<sup>†</sup> Dimensions listed ±0.12 in [±3 mm].



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