

Productivity boosters

Boost Benders



CNC Boost Benders

CNC2X-B / CNC2XR-B

Electropneumatics' CNC Boost Benders are designed and built for bending thick-walled and tight-radius bends required in the boiler, chemical and process industries. The bend and boost speeds and positions are programmable giving excellent control over ovality and wall thinning even without mandrel. Precise servo controls on bend and boost in a synchronised manner make the machine achieve desired ovality/thinning parameters without much operator involvement.

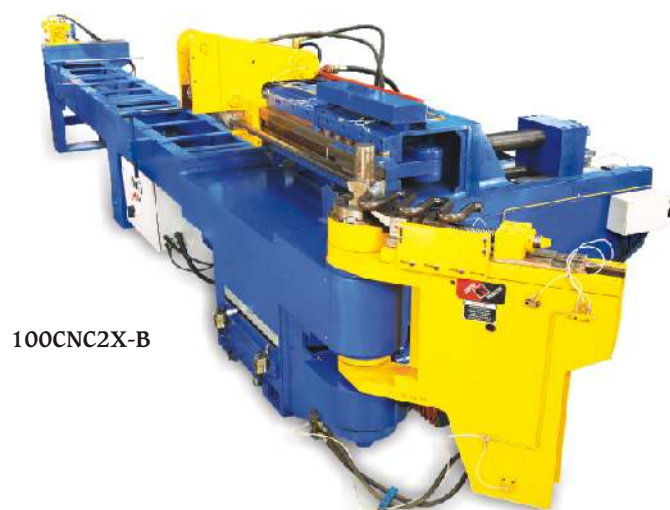
Features

- Minimum R = 1D bending on tubes with D/t ratio ≤ 9
- Achievable parameters on R = 1D in 'boost' mode
Ovality: 8 - 10%,
Thinning: 12 - 13%
- Capability of serpentine bends (with suitable tooling)
- Fully programmable closed loop (servo) 'bend-boost' speed and position control
- Unlimited tube length and capability of serpentine bends
- Mandrel-less and tie rod-less operation in 'boost' mode
- Suitable for both boost and normal (higher capacity) bending

Options

- Provision of carriage with manually pre-settable linear and rotary indexing facility for multi-plane bends (in CNC2XR-B models)
- Extra mandrel length or deletion of mandrel
- Split tool arrangement for $R \geq 57$ mm

Note: These machines are also available in Four-Axes versions with automatic linear and angular orientation.



Specifications

Model	Unit	65CNC2X-B 65CNC2XR-B	100CNC2X-B 100CNC2XR-B
Max. tube capacity (Dxt)*	mm	63.5 x 6.35	114 x 6
Capacity in boost mode	mm	50.8 x 5.5	63.5 x 6.35
Max. bend radius (CLR)	mm	300	500
Min. bend radius (mandrel-less)	mm	24	38
Min. bend radius	in terms of D	1D (on D/t ≤ 9)	1D (on D/t ≤ 9)
Speciality/suitability		Serpentine bends (max. 150 CLR)	Serpentine bends (max. 150 CLR)
Length over mandrel	m	2	2
Bend angle range	deg	5 - 180	5 - 180
Max. bend speed (accuracy)	deg/s (deg)	18 (± 0.2)	12 (± 0.2)
DBB and POB accuracy (in CNC2XR-B models)	mm & deg	± 0.2	± 0.2
Booster unit		Hydraulic clamp & boost unit for axial compression with programmable controls for synchronised bend-boost speed relation	
Connected load (approx.)	kW	11	18.5
Weight (approx.)	kg	5000 6000	8000 9500

*For ferrous tubes with UTS of 45 kg/mm². Standard bending direction is clockwise. Power supply: 415V, 50Hz, 3-phase AC.

NC Tube Benders

NCX / NCXR

These hydraulic semi-automatic NC Tube Benders can handle tubes from OD 6 to 419 mm in round, rectangular, square and other sections. The NCX models can produce parts with multiple bends in a single plane. The additional pre-settable linear and rotary indexing arrangement in NCXR models allows multi-plane bending. With the exception of plane of bend (POB) and distance between bend (DBB) being manual against pre-set stops, the bending cycle is automatic. In bigger machines, tube orientation is also powered.

Features

- No. of multi-plane bends settable = 8 (POB & DBB) (in NCXR)
- Programmable DOB in automatic open loop control. Pre-selectable POB (in NCXR)
- Programmable bending angle and preset bending sequence
- Memory capacity of 50 programs with 15 bends/program
- Electropneumatics' make Micro PLC with 3" touch screen MMI

Options

- Increased bend radius (on select models)
- Extra mandrel length and extended arm for specific applications
- Modified versions with split tools, heated tools, etc. to suit component requirements
- Safety mat and safety flap on bend arm
- Automatic mandrel lubrication
- Hydraulic oil cooler
- Counter-clockwise bending

Note: All machines are also available in Three-Axes CNC versions.



80NCX



100NCXR

Specifications

Model	Unit	30NCX 30NCXR	65NCX 65NCXR	80NCX 80NCXR	100NCX 100NCXR	150NCX 150NCXR	200NCX 200NCXR	325NCX 325NCXR	400NCX 400NCXR
Max. tube capacity (Dxt)*	mm	32 x 2	65 x 4	80 x 2	114 x 6	168 x 11	219 x 13	325 x 17	419 x 21
Min. tube capacity (D)*	mm	6	10	10	25	50	76	89	114
Max. bend radius (CLR)	mm	120	300	300	500	600	600	1000	1200
Min. bend radius	mm	20	24	24	38	100	150	178	228
Min. bend radius	in terms of D	1.5D	1.5D	1.5D	1.5D	2D	2D	2D	2D
Length over mandrel	m	2	2	2	2	4	4	6	6
Bend angle range	deg	5 - 180	5 - 180	5 - 180	5 - 180	5 - 180	5 - 180	5 - 180	5 - 180
Max. bend speed (accuracy)	deg/s (deg)	30 (±0.2)	24 (±0.2)	18 (±0.2)	12 (±0.2)	3 (±0.25)	2 (±0.25)	2 (±0.25)	1 (±0.5)
DBB & POB accuracy (in NCXR models)	mm & deg	±0.2	±0.2	±0.2	±0.2	±0.25	±0.25	±0.25	±0.5
Connected load (approx.)	kW	3.7	7.5	7.5	15	30	37	55	75
Weight (approx.)	kg	1300 1500	2300 3000	2500 3200	4500 5000	16000 19000	25000 30000	55000 62000	70000 80000

*For ferrous tubes with UTS of 45 kg/mm². Standard bending direction is clockwise. Power supply: 415V, 50Hz, 3-phase AC. For models 150NCXR onwards, linear and rotary indexing arrangement is powered.

Note:

D = Tube outside diameter, t = Wall thickness, CLR = Centre Line Radius, DOB = Degree Of Bend, POB = Plane Of Bend, DBB = Distance Between Bends





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