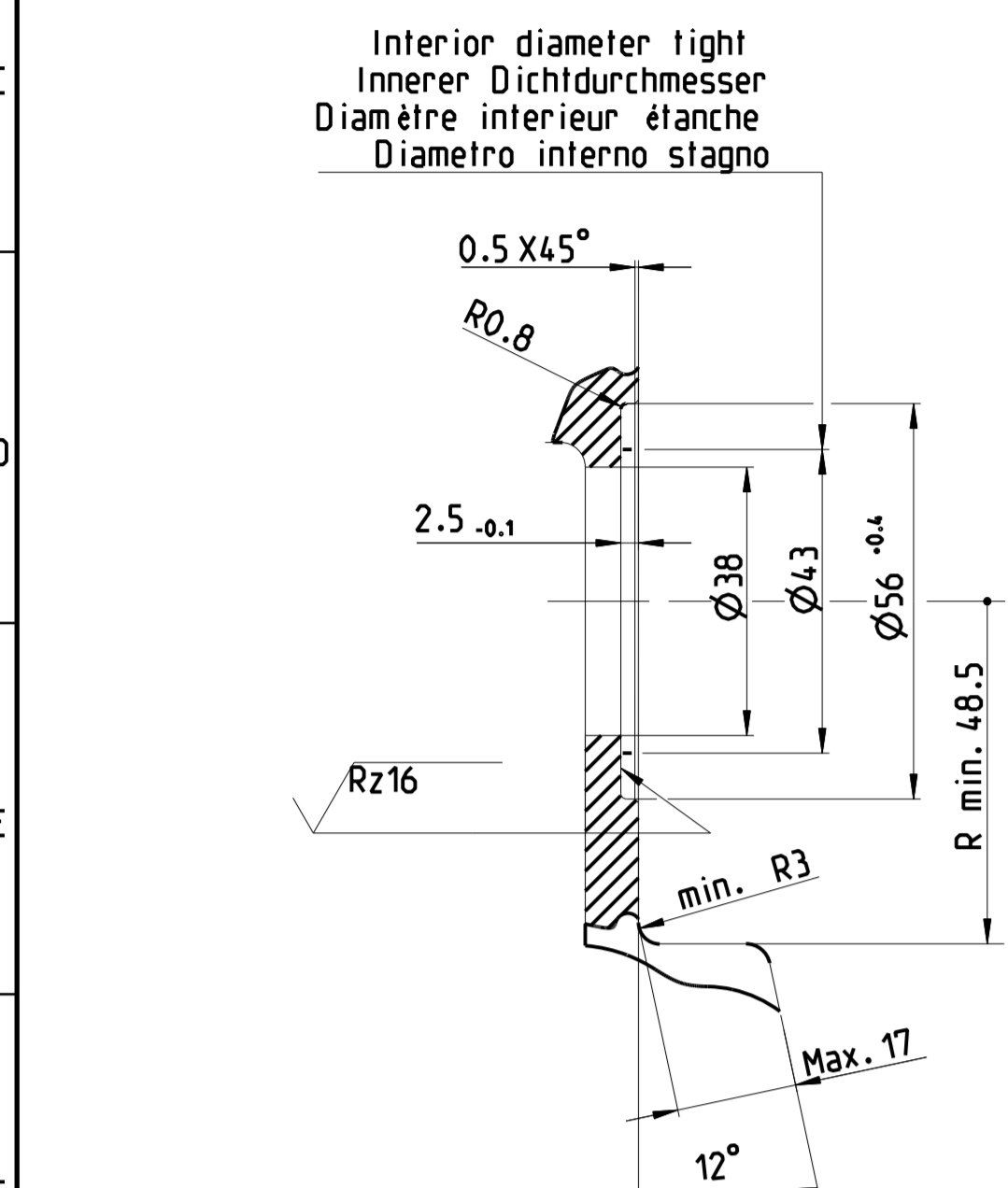
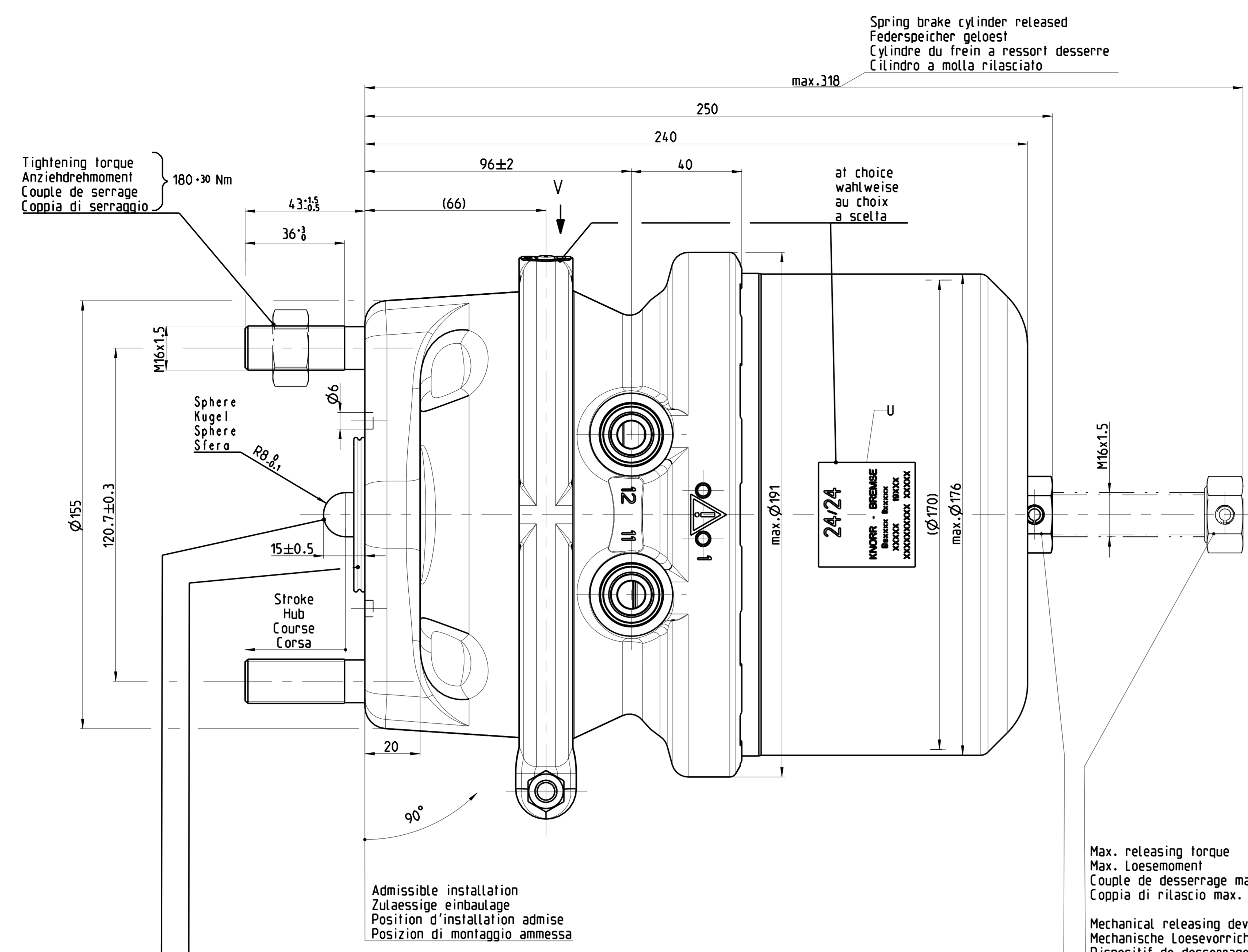


Tolerances/Tolérances/Tolleranze					
Nominal dimensions in mm					
Cotes nominales en mm					
Dimensioni nominali in mm					
<6	>6 - >30	>30 - >80	>80 - >120	>120 - >315	>315
±1	±1.5	±2	±2.5	±3	±4



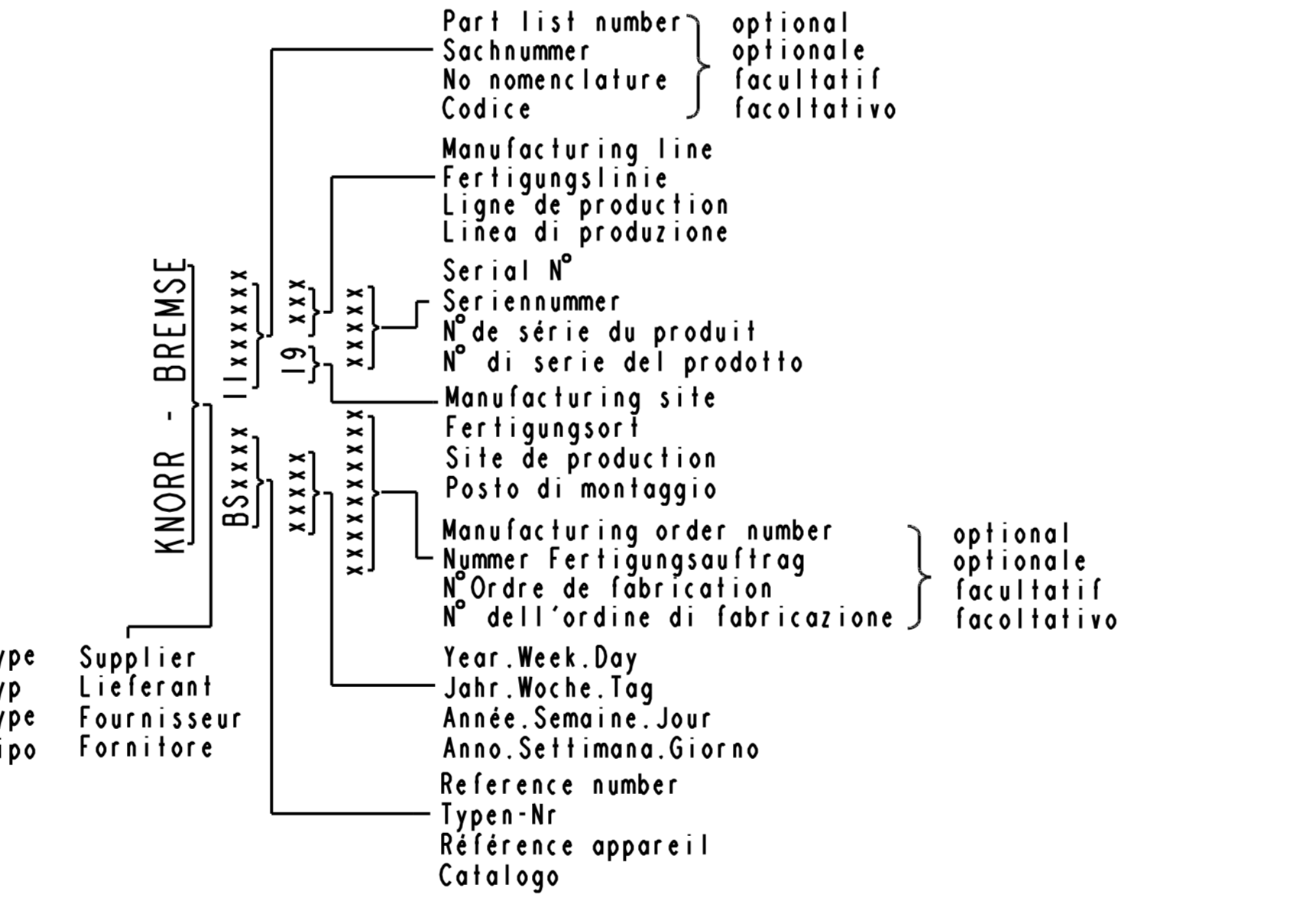
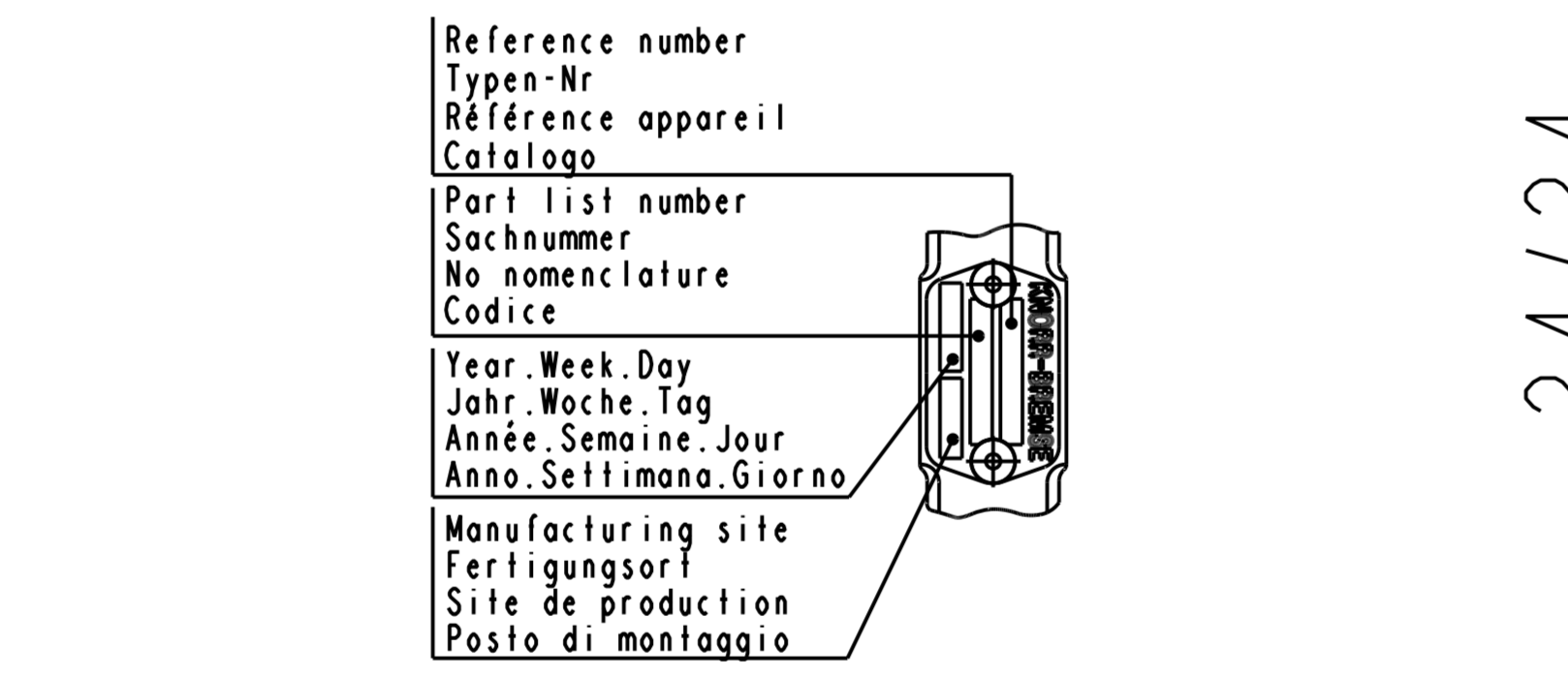
Installation dimension of brake caliper
Anschlssgeometrie des Bremsstells
Bride de fixation de l'étrier de frein
Geometria della flangia sulla staffa



Tightening torque
Anziehdrehmoment
Couple de serrage
Coppia di serraggio } 180-30 Nm

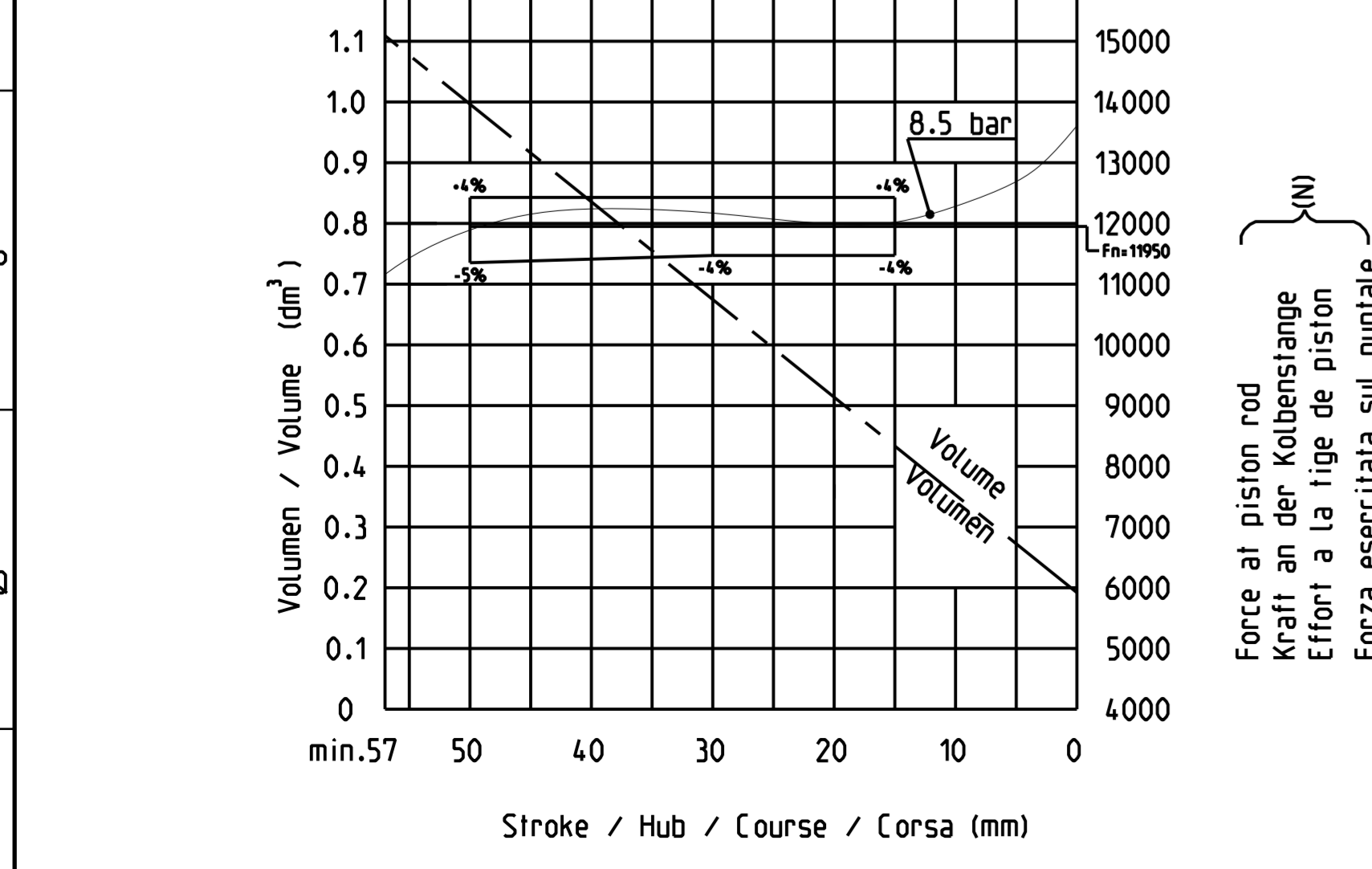
Sealing pressure tight against secondary chamber
Abdichtung-druckdicht zum Sekundarraum
Étanchéité: étanche à la chambre secondaire
Tenuta ermetizzata la camera secondaria } 0.4 bar

Max. pivoting angle of piston rod in all directions
Schwenkbereich der Kolbenstange allseitig max.
Angle de pivotement max. de la tige de piston de tous cotes
Angolo di rotazione dello stelo slantuffo in tutti i direzioni } 4°



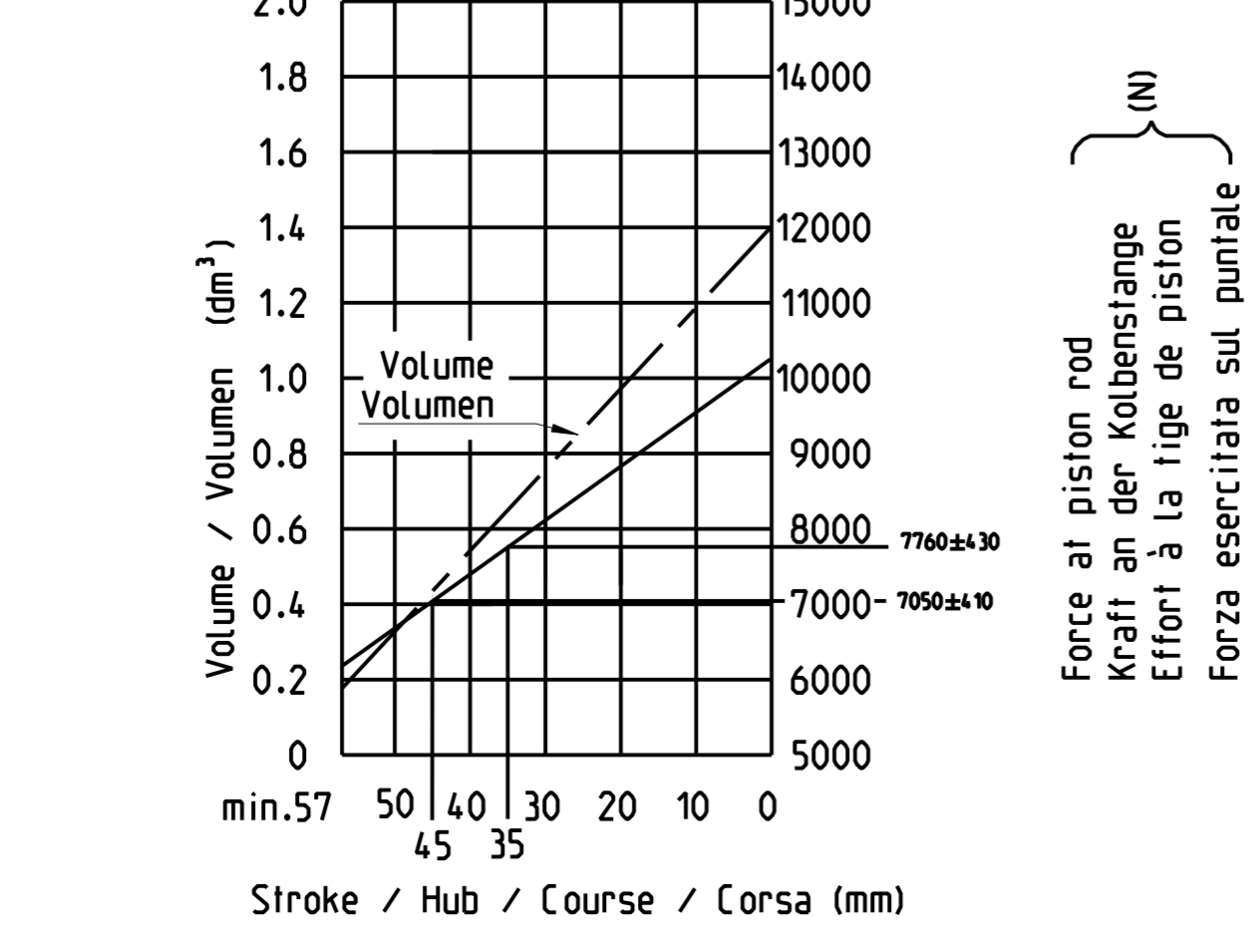
Force of return spring at stroke 20 mm
Kraftabgabe der Ruckhofeder bei Hub 20 mm
Force du ressort de rappel à une course de 20 mm
Forza della molla di ritorno a una corsa di 20 mm } F = 200 N

Diagram of service brake
Diagramme der Betriebsbremse
Diagramme du frein de service
Diagramma del freno di servizio } Type 24



Required release pressure
Erforderlicher Loesedruck
Pression de desserrage nécessaire
Pressione di rilascio necessaria } 5.1±0.3 bar

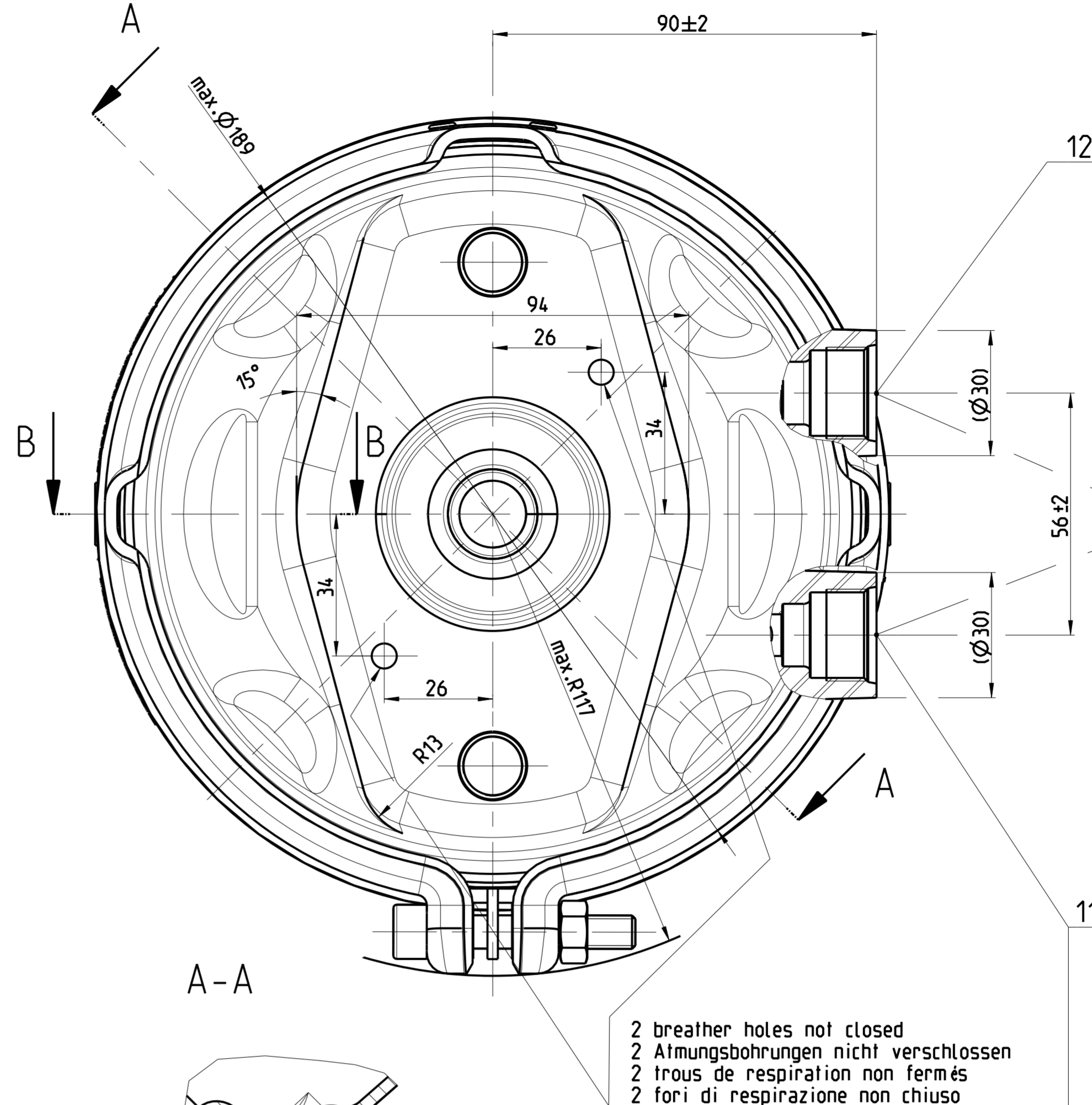
Diagram of spring loaded cylinder
Diagramme des Federspeichers
Diagramme du cylindre à ressort
Diagramma del cilindro a molla } Type 24



Operational uses specifications:
Max. operating pressure
Max. Betriebsdruck
Pression de service max. 11 } 10.2 bar
Pressione d'esercizio max. 11 } 13 bar
Max. operating pressure
Max. Betriebsdruck
Pression de service max. 12 } 8.5 bar
Pressione d'esercizio max. 12 } 11 bar
Permissible leakage
Zulaessige Undichtheit
Fuite admissible
Fuga d'aria ammissibile } v_n = 10 cm³/min

General specifications:
Medium: Air
Medium: Luft
Fluide: Air
Fluido: Aria } Designation of connection threads corresponding to Anschlussbezeichnungen nach Designations des raccords selon Designazioni degli attacchi secondo } DIN-ISO 6786
Graphic symbol
Schaltzeichen
Symbole graphique
Simbolo grafico } } DIN-ISO 1219

Specifications for service brake actuation in parking position:
Minimum pressure
Minimum Druck
Pression minimale
Pressione minima } 11 } 2 bar
Pressure rising min.
Druckgradient min.
Montée en pression min.
Aumento della pressione min. } 11 } 3 bar/s



Max. releasing torque
Max. Loesemoment
Couple de desserrage max.
Coppia di rilascio max. } 35 Nm

Mechanical releasing device: Spanner width
Mechanische Loesevorrichtung: SW
Dispositif de desserrage mécanique: Cote sur plats
Dispositivo di rilascio meccanico: Chiave } 24

Tightening torque in operating position
Anziehdrehmoment in Betriebsstellung
Couple de serrage en position de service
Coppia di serraggio nella posizione di servizio } 20 - 70 Nm

- General presentation, exact orientation of the components, see below.
- Allgemeine Darstellung, fuer genaue Teilorientierung, siehe Ansicht unten.
- Présentation générale, orientation exacte des pièces, voir vue en bas.
- Presentazione generale. Per l'orientazione corretta dei pezzi, vedere il disegno sotto.

12 Spring-loaded cylinder
Federspeicherzylinder
Cylindre à ressort
Cilindro a molla

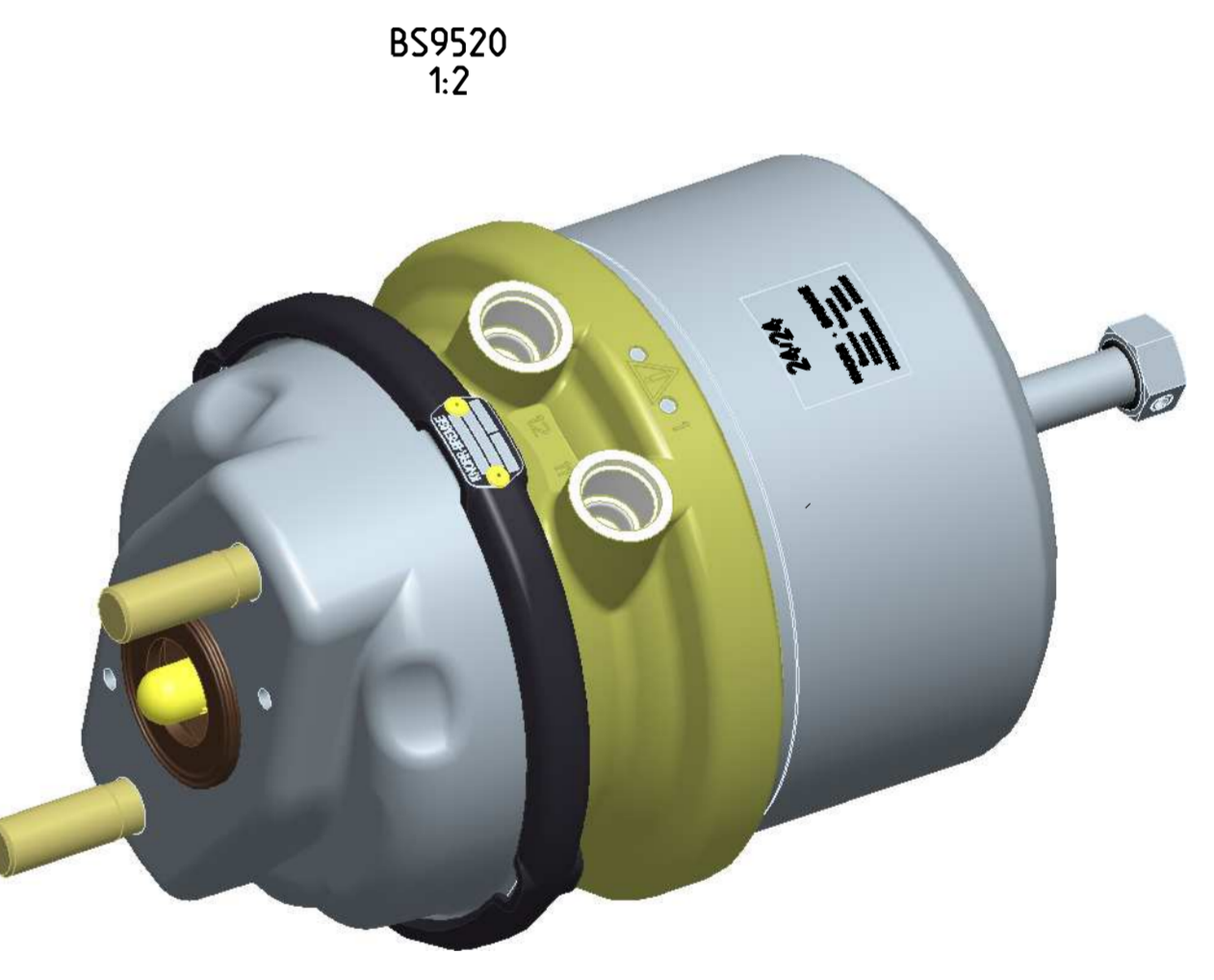
Tightening torque for VOSS connector 230 and VOSS 232
Anziehdrehmoment fuer VOSS stecksystem 230 und VOSS 232
Couple de serrage pour raccord VOSS 230 et VOSS 232
Coppia di serraggio per raccordo VOSS 230 e VOSS 232 } 14 Nm

Tightening torque for plug connector M22x1.5
Anziehdrehmoment fuer Steckverbindung M22x1.5
Couple de serrage pour raccord M22x1.5
Coppia di serraggio per raccordo M22x1.2 } max. 60 Nm

Ports for plug connector
Anschlüsse fuer Steckverbindung
Orifices pour raccord rapide
Orifici per raccordo rapido } M22x1.5 N10164 - NG12

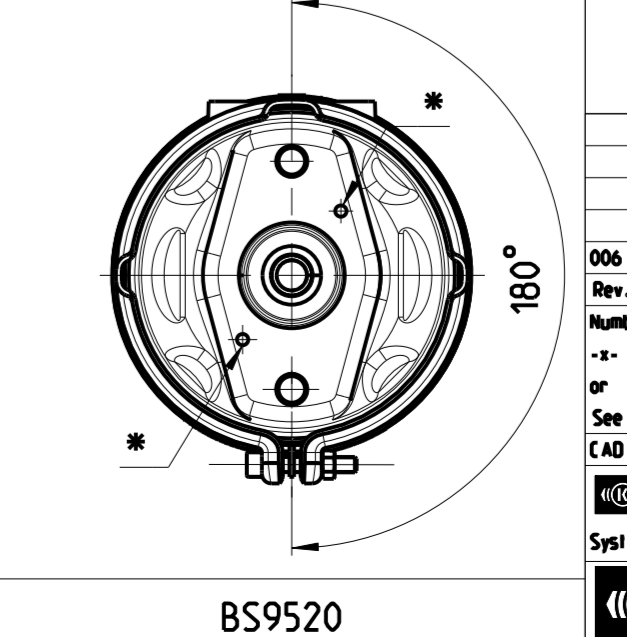
11 Service brake
Betriebsbremse
Frein de service
Freno di servizio

11 Charging and venting of spring portion via connection 11
Be- und Entlüftung des Federraumes ueber Anschluss 11
Alimentation et mise a l'atmosphère de la chambre à ressort par le raccord 11
Alimentazione ed evacuazione della attraverso attacco 11



Warning / Nachricht / Avertissement / Avvertimento
This brake actuator can only be used on applications for which it has been formally validated by Knorr-Bremse
Dieser Bremszylinder darf nur für Applikationen angewendet werden, für die er von Knorr-Bremse freigegeben worden ist
Cet actionneur de frein ne doit être utilisé que sur les applications pour lesquelles il a été formellement homologué par Knorr-Bremse
Questo cilindro a molla deve essere utilizzato solo per applicazioni benestanti formalmente dalla Knorr-Bremse

- Exhaust hole must be directed downwards when mounted
- Entlüftung muss im eingebauten Zustand nach unten zeigen
- L'orifice d'échappement doit être dirigé vers le bas en état monté
- Installato il foro di scarico dovrà essere rivolto verso il basso



- Breather holes opened
- Atmungsbohrungen geöffnet
- Trous de respiration ouverts
- Fori di respirazione aperti } Ø6

BS9520 - 1134388	0501 316 050	8.0
KB-Ref. number	ZF - ref. no.	Weight
KB-Bestell-Nr.	ZF - Nr.	Gewicht
KB-No de réf.	ZF - No. de ref.	Masse
Codice KB per ordine	ZF - Codice	Massa (kg)

ISO 15926-3	Revision Reference	Date	Name	Special Characteristics	Surface Treatment	Length Unit	Scale
000	000250	21.02.2012	LM			mm	1:1
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3							
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Type 24/24

BS9520
1.2