



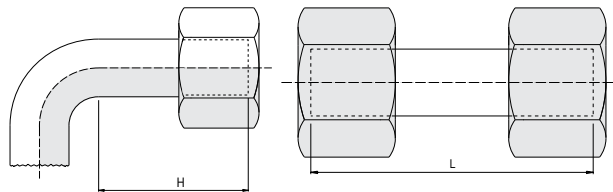
ASSEMBLY INSTRUCTION DS AND S CUTTING RING



SERIES ASSEMBLY WITH PRE-ASSEMBLY IN VM AND SUBSEQUENT FINAL ASSEMBLY IN TUBE FITTING

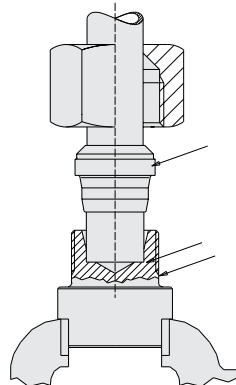
For series assemblies and assemblies with high-grade steel pipes the pre-assembly is to be carried out exclusively using pre-assembly connecting pieces “VM” or using pre-assembly devices. Our final assembly machine OPTICAM also offers optimum possibilities.

1. Minimum dim. H+L

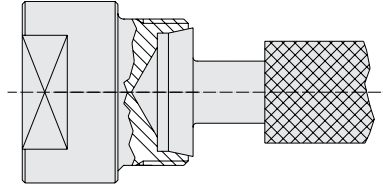


SERIES	LL				L								S										
Tube OD	4	5	6	8	6	8	10	12	15	18	22	28	35	42	6	8	10	12	16	20	25	30	38
H min.	24	25	25	26	31	31	33	33	36	38	42	42	48	48	35	35	37	37	43	50	54	58	65
L min.	30	32	32	33	39	39	42	42	45	48	53	53	60	60	44	44	47	47	54	63	68	73	82


2. In order to guarantee a functional assembly quality, Gates screw connections must generally be installed in an oiled state. For this, the cone of the connecting piece (screw connection or VM), the thread and the 45° shoulder of the cutting ring must be oiled.

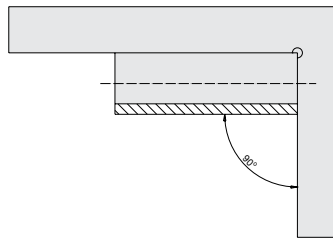


3. The size accuracy of the cones of the VM is monitored via regular examinations using a cone gauge.

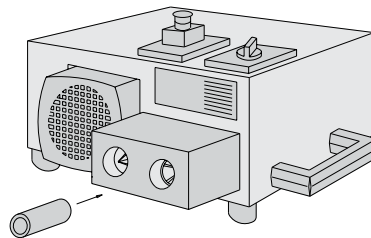


4. Saw off tube to be laid at a right angle.

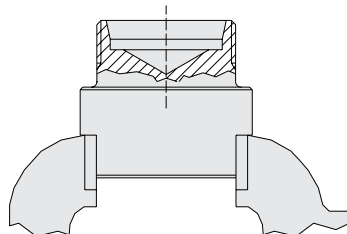
 Do not use a pipe cutter.



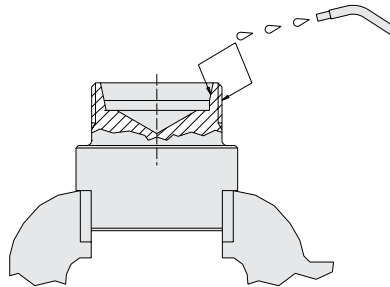
5. Deburr tube on inside and outside, for example using the Gates OPTIGRAT 642.



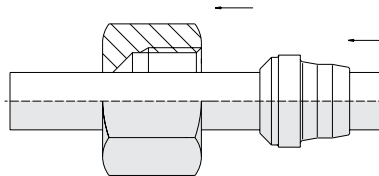
6. Tension the pre-assembly connecting pieces of the respective series and tube dimensions in a vice.



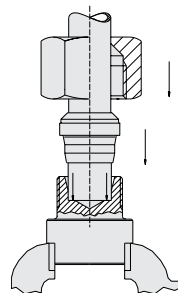
7. Oil the pre-assembly connecting pieces – do not grease. Use Gates lubricant paste with rustproof materials.



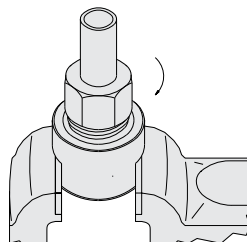
8. Push screw connection parts over the pipe end as illustrated.



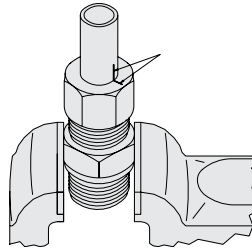
9. Insert the tube in pre-assembly connecting pieces and press firmly into position at the interior cone.



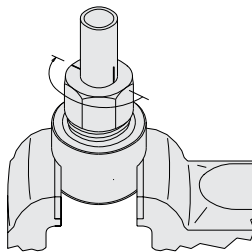
10. Then tighten the union nut until the tube is no longer moveable in the screw connection - the cutting ring has begun to cut into the tube.



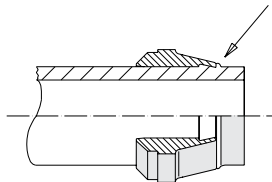
11. A marking applied with a pen on the union nut makes it easier to determine whether the prescribed turn has been carried out.



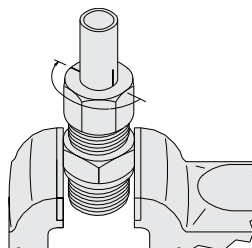
12. Now tighten the union nut 1/2 turn, the Gates cutting ring hereby cuts evenly into the tube.



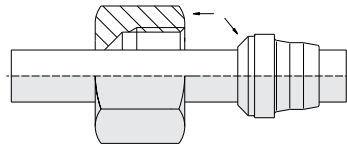
13. After pre-assembly it must be examined whether there is a visible shoulder throw-up before the first edge.



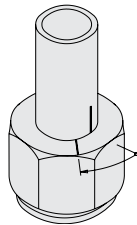
14. Insert the thus pre-mounted pipe into the screw socket and tighten approx. 1/2 turn past the point of the perceptible increase in force.



15. Remove connection again after it has been tightened; check whether the shoulder throwup fills the space in front of the edge. The ring may turn; it may not however be movable axially.



16. After loosening the connection the union nut is to be tightened again until there is a noticeable increase in force (pressure point). Afterwards, screw in $30^\circ - 60^\circ$ using a suitable wrench.



PIPE QUALITY

We recommend the use of seamless precision steel piping with dimensions in accordance with DIN EN ISO 10305 Part 4, Material: E235, NBK.

Pipes made from rust and acid-proof material must be seamlessly cold-drawn, scale-free and heat-treated in accordance with DIN EN 10216-5 - X6 CrNiMoTi17-12-2-CFD and exhibit tolerances in accordance with DIN EN ISO 10305-1.