

THE PROBLEM ???
Centering the Ceramic Tubes whilst tightening

??? Stronger Inner Hypodermic SS Tubing needed ?
Welded / silver soldered !



Cyl GF 17.6x14.6mm x 1/2" L

"H2 SITE" Ceramic Tube Graphite Seal Joiner

~~16.6x14.6mm x 0.8" L ????~~

But for 17.6 x14.6mm x 0.8" L—Actual Thread Size DIMs ???

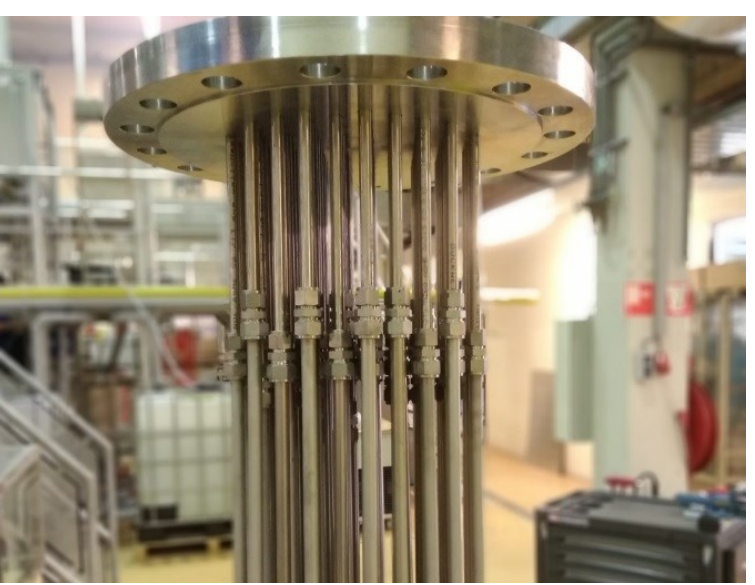
W	mm.	core dia. mm.	size mm.	WF	mm.	core dia. mm.	size mm.
14	2,00	12,210	12,00	15	1,00	14,153	14,00
16	2,00	14,210	14,00	15	1,50	13,876	13,50
18	2,50	15,744	15,50	16	1,00	15,153	15,00
20	2,50	17,744	17,50	16	1,50	14,676	14,50

1/5mm Thick

Graphite CYL 17.6 x 14.6mm ?
1/2 squashes into thread

HOME / PARTLY OWNED COMPAN... / H2SITE: ON-SITE GENE...
COMPANY

H2SITE: On-site generation of high purity hydrogen



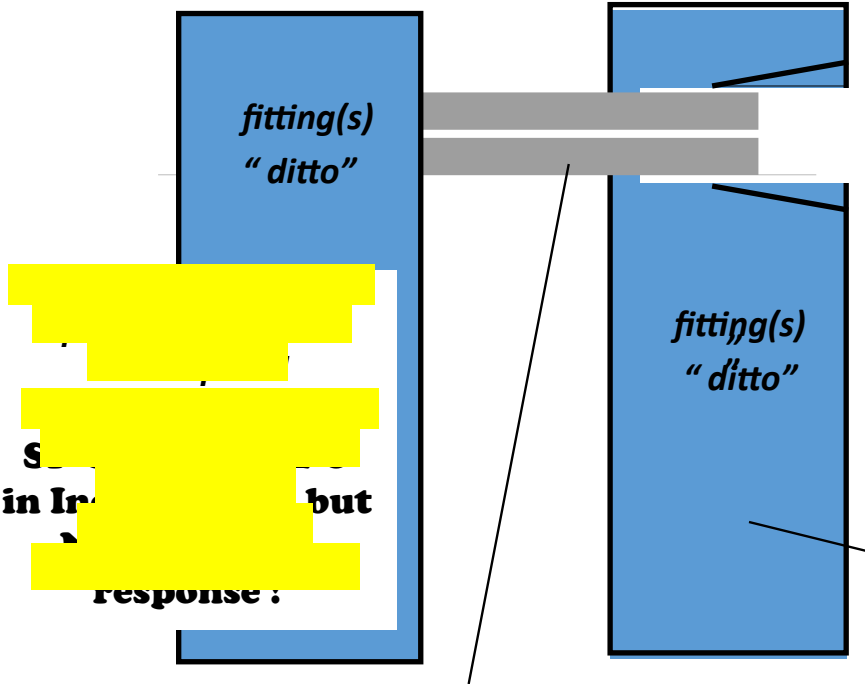
SS Top / Bottom Flange probably has a short Graphite Seal
> more standard Male NUT into Female tapped Thread Hole in the Flange
ie a "Custom" Reducer Fitting

*** NoTech Details/ or progressive "feed-back!")**
Cat DIMs ever received !we R ever-trying to
" Out-guess" such Customers !

*** A**

Custom SS 1/2" NPT (?) (Tapered)
 TO 1/4 or 1/8" (?) Tube Our SL BUTT GF

To Allow thermal expansion in furnace >



Or Simply with THEIR Fitting > "whatever !" ?
 a photo & "crude" Eng DIMs of 14mm parallel
 thread ! Male to 6mm Tube Reducer was was
 received years ago > & near USELESS ?
 (but ALL in retrospect !)

"Their" SS Manifold

NOT To Scale !

Tube sets (ID an ?) 14.6mmOD x ~24 each
 2 each with joiners

*** A**

No reason why this can't even be Custom - Silco-treated 4 INERTNESS ! (IF / as needed ? "other" APPs)
 Tapered thread more likely to seal compared to a Straight thread as per standard Swagelok depicted in -
 Technalia / H2 Site photo ! (All but)in retrospect ?).

- Flange Temp IF actual furnace >500C(700C?) Teflon tape probably marginal use (250C MAX C)
 embedding a GF ferrule in that Female Manifold Port NOT really a good idea probable 20-24 ports in
 flange shown

a **LIMITATION (s)**

Safety ANY potential H2 leaks into the outer furnace)

- " Torque Wrench" needed - and it's access to tightening those joiner connection > Butt for inertness)
 Overtightening a nightmare and breaking "expensive" ceramic/membrane tubes
- A High Temp Ceramic paste "glue" might be more "feasible seal of that "tapered" thread !

Maybe NOT relevant for THE Current H-2Site / Technalia APP(s) !

> H2 Purification > NH3 production(?)

M MAX Pressure 10-50BAR (?) re the current "Habar-Bosch" "archaic" Industrial process
 (~900degC iron Catalyst !)

BUT always Impossible to "outguess" ANY existing "naive" customer(s) "Top Secret" needs ?
 > "futile ? even !

Always > a "potential need"(?) to look at "perfection" for such designs with " other" potential APPs in mind !
 Re > High T, P and Inertness !

- **Unknowns** re Pressure limits of GF seals vs tube/fitting size !
 (we can make up to 2.0"ID GFs of course with "Scale Up potential in mind !)
- **Ceramic Tube OD / ID / L size variations > known** on-cooling/drying mould/extrusion process problems etc
 vs need to "centerless grind ceramic tube OD (vs cost expense ?) OD ONLY > but on ID ???

