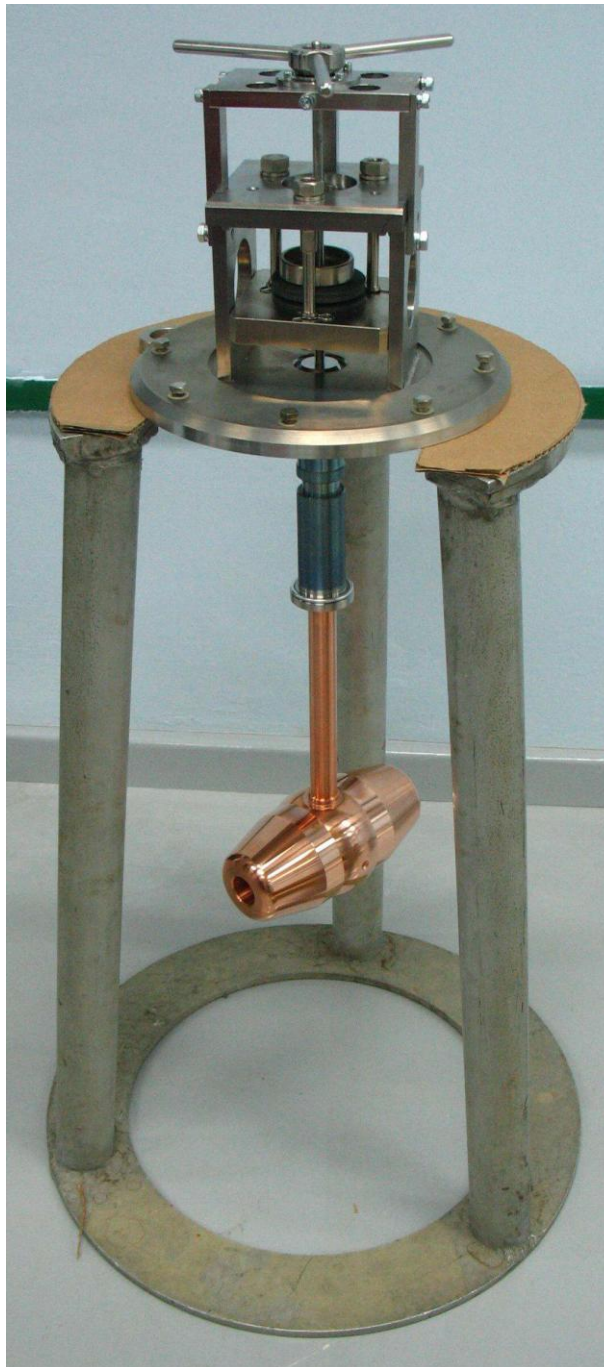
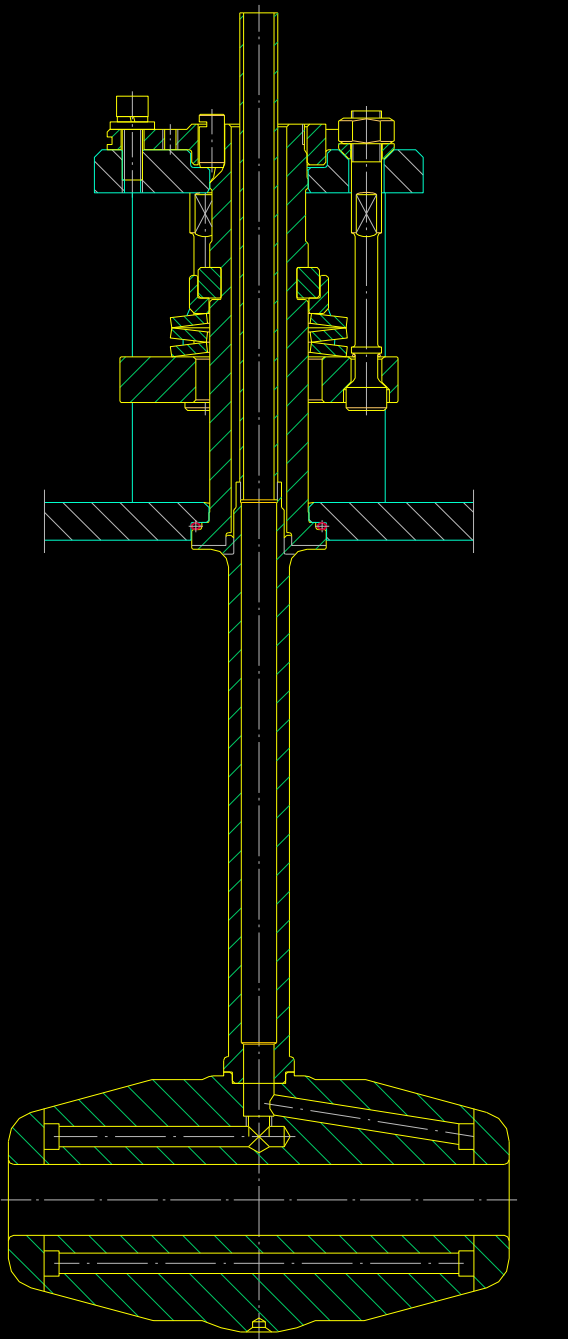


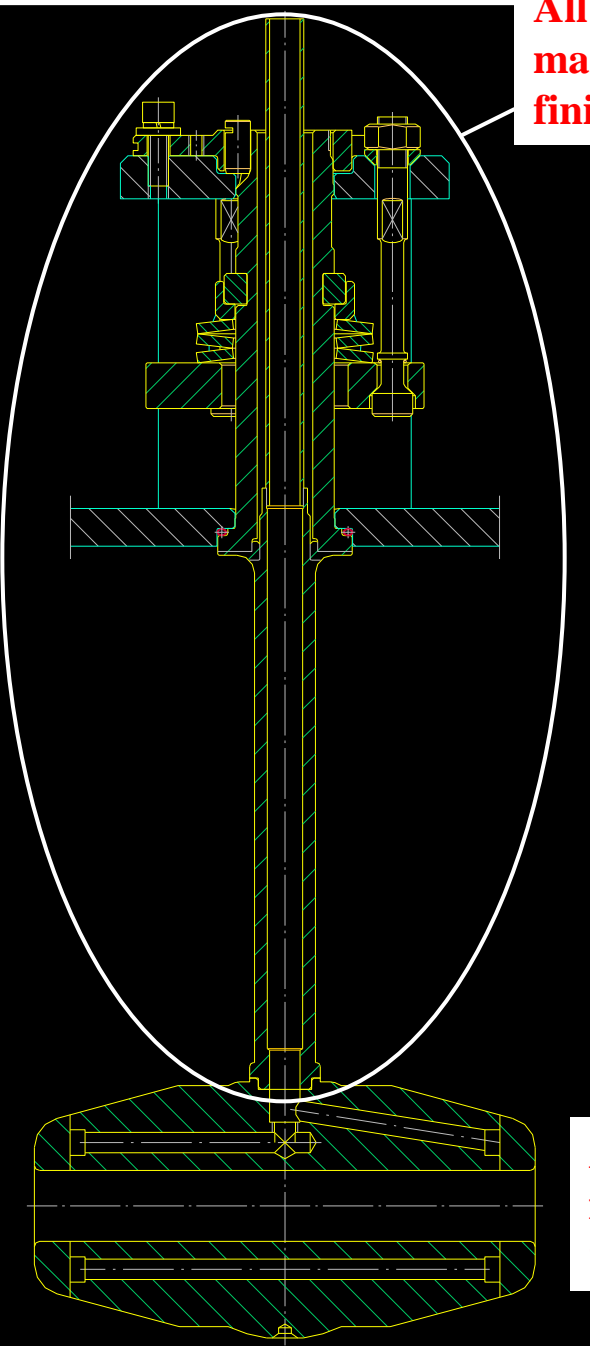
Drift tubes production at BINP

- Drift tubes for CCDTL prototype (ISTC project 2875) – OK
- Decided to improve the design and production technology
- Built 2 drift tube mock ups
- Now making 50 drift tubes



Drift tube mock up built at BINP passed dimension check, vacuum leak check and water pressure (up to 16 bars) check

All 50 sets are being made now and will be finished all at once



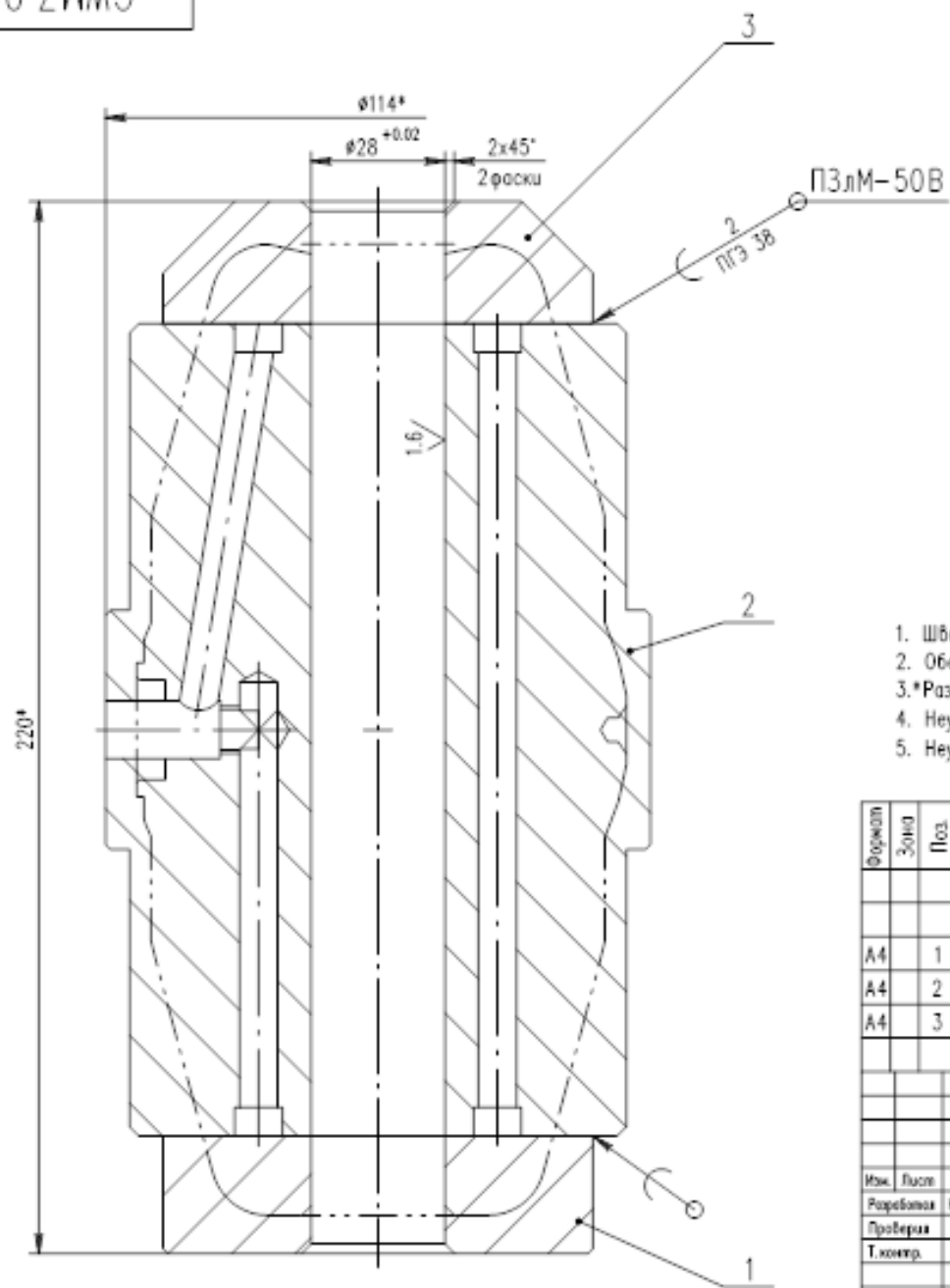
Drift tubes production at BINP: the strategy

Upon arrival of the cavities from VNIITF to BINP, using a few sets of aluminum dummy drift tubes, resonant frequencies of the cavities are measured. Interpolation of the measurement results allows to correct the real drift tube shape as to compensate limited precision of 3D-calculations and manufacturing accuracy.

Individual final machining of the drift tubes to the dimensions calculated from frequency measurements of actual cavities with aluminum dummy drift tubes is foreseen to bring the resonant frequency to the design value.

The tuners are machined to their final dimensions found from frequency measurements of the cavities with drift tubes installed.

All 50 drift tube bodies are being made now and will be semi-finished (see next slide) all at once, then each drift tube will be “matched” to the corresponding cavity



1. Швы паяных соединений по СТП.020-87.
2. Обеспечить сплошной пропай по всей плоскости.
- 3.*Размеры для справок.
4. Неуказ пред. откл. размеров: отв. h14, валов h14, остальных $\pm h14/2$.
5. Неуказанные пред. откл. формы и располож. поверхностей по СТП.012-80.

Формат	Зона	Поз.	Обозначение	Наименование	Кол.	Примеч.
				<i>Детали</i>		
A4	1	CWMR.01.02.01		Шайба нижняя	1	L=28мм
A4	2	CWMR.01.02.02		Корпус	1	
A4	3	CWMR.01.02.03		Шайба верхняя	1	L=28мм
CWMZ.03.00						
Изм.	Лист	№ док.	Подпись	Дата	Корпус	
Разработал		Кривош Я.Г.		7.04.10		
Проверил						
Т.контр.						
Н.контр.						
Утвердил						
					Лист 1	Листов 1
Институт ядерной физики ОД РАН Новосибирск						

		Check	
1	<i>Manufacturing of the suspension</i>		
1.1	Manufacturing of the bimetel sleeve		
1.1.1	Machining of the sleeve parts		
1.1.2	Brazing together the sleeve parts	VAC	
1.1.3	Final machining of the stainless steel part, machining of the copper part for brazing the stem.	VAC	
1.2	Manufacturing of copper stem		
1.2.1	Machining of the stem parts		
1.2.2	Brazing together the stem parts	VAC	
1.2.3	Machining of the stem end for brazing to the sleeve.	VAC	
1.3	Brazing together the stem and sleeve.	VAC	
1.4	Final machining of the brazed suspension.	VAC	DIM
2	<i>Manufacturing of the body</i>		
2.1	Machining of the drift tube parts.		
2.2	Brazing together the drift tube parts thus forming a body.	VAC	
2.3	Machining of the body after brazing		
2.3.1	Machining the inner (beam) hole		
2.3.2	Mounting the body on to a holder, turning the entire outer contour in a continuous pass (without changing the assembly in the chuck)		
2.3.3	Milling the laser tracker target holders and drift tube suspension connection interface on the same holder	VAC	DIM
3	<i>EBW of the suspension and body</i>	VAC	DIM

07-08.2010

To be completed by 08.2010*)

Will be done individually for each cavity

VAC = vacuum leak check

DIM = dimensional check (on a CMM), measured actual dimensions are recorded in the "passport" *)

*) Machining (turning) of the drift tube parts	06-07.2010
Machining (milling and drilling) cooling channels	07.2010
Brazing	08.2010