

Technical specification for a new head extruder dedicated for extrusion of FR-XLPE, XLPO, LSOH, XL-LSOH, PVC/PE, PUR insulation and outer sheath materials. (internal machine designation WP-02)

Technical analysis and three-dimensional design of extrusion head based on rheological study and flow simulation for specified types of insulation materials.

- FR-XLPE
- XLPO
- LSOH
- XL-LSOH
- PVC/PE
- PUR

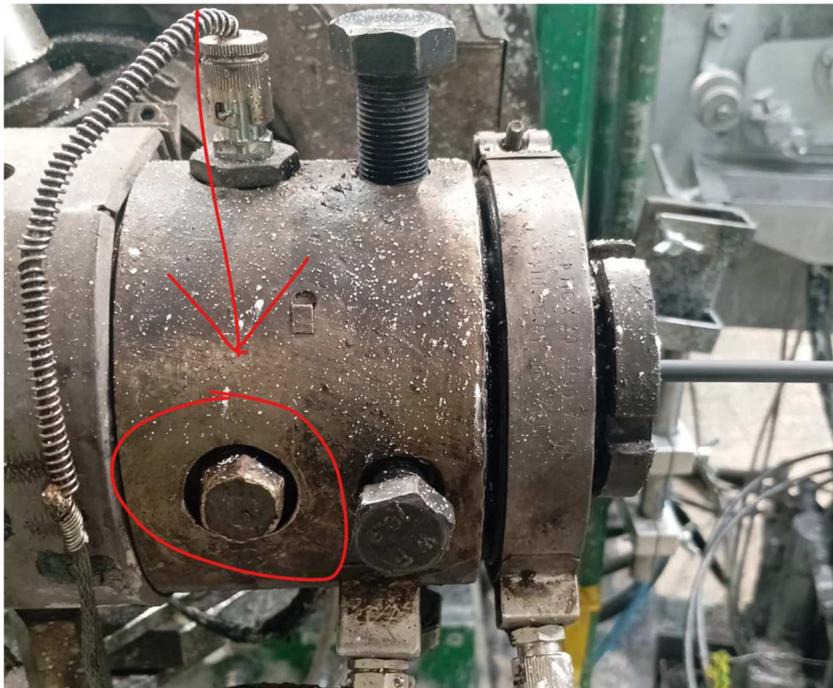
3D flow analysis must confirm, that proposed new design of head extruder will provide us with possibility of high-speed production of listed, demanding and highly filled materials without risk of stagnation/overheating and even, stable pressure distribution with good radial velocity/centricity. Minimum speed for 1,5mm² cross section wire is set to 150m/min for FR-XLPE / XLPO materials.

New extruder head will cover listed diameter from 0,5mm up to 13mm and max. final product diameter 30mm.

- New extruder head will cover listed insulation thickness:
0,5mm – 2,5mm
- Extrusion Head with fine centering
- Max opening Die:30mm
- Line direction: Left to right
- Composed by:
 - Set distributor fine tuning (centering from the rear with spherical system) or centering screws on die. With special surface treatment (hardness up to 2200 HV)
 - Heating elements
 - Neutral ring
 - Set of filter packs
 - Adjusting die nut
 - Set for assembly and disassembly tools
 - Special cleaning tools made in brass
 - Distributor for all materials listed above
 - Manual By-Pass for main extruder 70mm
 - Manual By-Pass for auxiliary extruder 30mm
 - Connecting flange for main extruder 70mm
 - Connecting flange for auxiliary extruder – thread M20x1,5
 - Alternative distributor for auxiliary extruder for green-yellow skin insulation production (two color stripes, 30%/70%). See picture below and description:



Above distributor should be connected to the extrusion head somewhere as seen on below picture:



Connector is type M20x1,5 as seen below:



➤ Tables with predicted material usage per 1h with target speed 150m/min

Material brand name:	HFX551
Material:	1 (Cross-linked LSFOH)
Max. extrusion temp.:	210 st.C
Density:	1,41
Target machine speed:	300
Cross-section:	Material usage kg/h:
1,5RM	135,36
2,5RM	164,52
4RM	201,78
6RMC	211,68

Material brand name:	SX0612ES
Material:	2 (Cross-linked FR-LSOH)
Max. extrusion temp.:	160 st.C
Density:	1,52
Target machine speed:	300
Cross-section:	Material usage kg/h:
1,5RM	145,8
2,5RM	177,48
4RM	217,44
6RMC	228,24

Material brand name:	GFR320
Material:	3 (Cross-Linked FR-XLPO)
Max. extrusion temp.:	240 st.C
Density:	1,35
Target machine speed:	300
Cross-section:	Material usage kg/h:
1,5RM	129,6
2,5RM	157,68
4RM	193,14
6RMC	202,68

Material brand name:	FR4450
Material:	4 (Cross-linked FR LSOH LDPE)
Max. extrusion temp.:	190 st.C
Density:	1,1
Target machine speed:	300
Cross-section:	Material usage kg/h:
1,5RM	105,48
2,5RM	128,34
4RM	157,32
6RMC	165,06

Material brand name:	FR4451
Material:	5 (Cross-linked FR LSOH LDPE)
Max. extrusion temp.:	190 st.C
Density:	1,19
Target machine speed:	300
Cross-section:	Material usage kg/h:
1,5RM	114,12
2,5RM	138,96
4RM	170,28
6RMC	178,74

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