

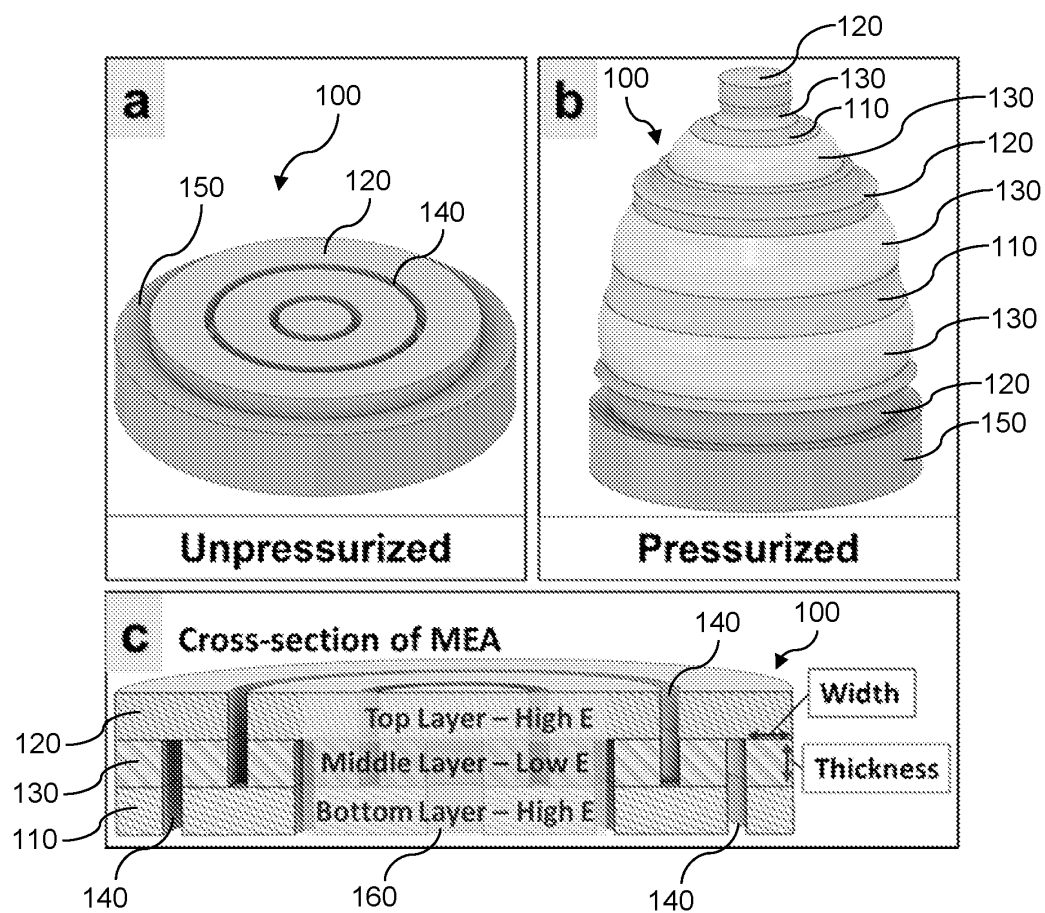


Figure 1

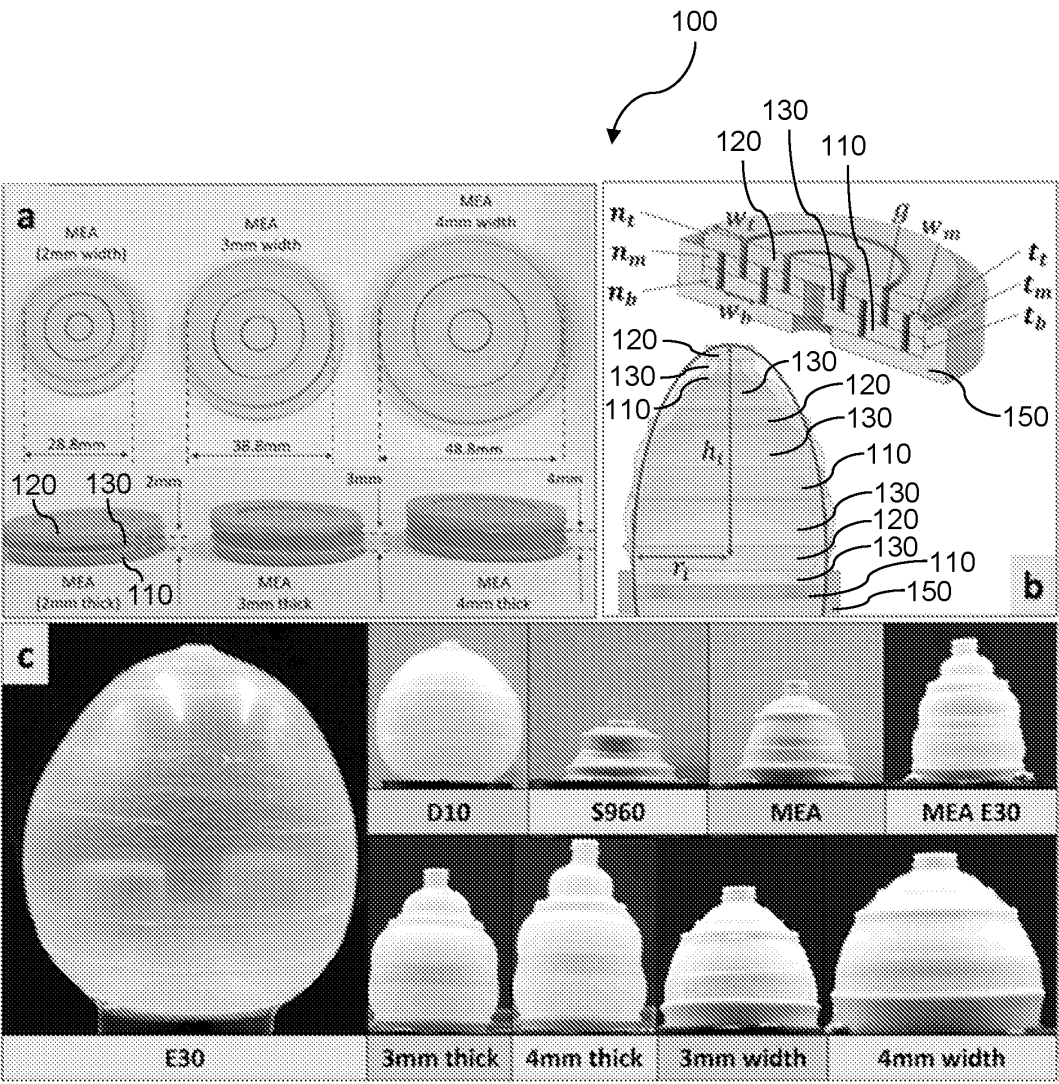


Figure 2

Component	Stiff layer material	Elastic layer material	Diameter	Elastic layer thickness	Elastic layer width	Total depth	Weight (without shell)
MEA E30	Smooth-Sil 960	Ecoflex 00-30	28.8	2mm	2mm	6mm	4g
MEA	Smooth-Sil 960	Dragon Skin 10	28.8	2mm	2mm	6mm	4g
MEA 3mm thick	Smooth-Sil 960	Dragon Skin 10	28.8	3mm	2mm	7mm	4.6g
MEA 4mm thick	Smooth-Sil 960	Dragon Skin 10	28.8	4mm	2mm	8mm	5.1g
MEA 3mm width	Smooth-Sil 960	Dragon Skin 10	38.8	2mm	3mm	6mm	8.1g
MEA 4mm width	Smooth-Sil 960	Dragon Skin 10	48.8	2mm	4mm	6mm	13.1g

Figure 3a

Physical interpretation	Variable assignment
Number of (top, middle, bottom) rings	n_t, n_m, n_b
Thickness of (top, middle, bottom) rings	t_t, t_m, t_b
Width of (top, middle, bottom) rings	w_t, w_m, w_b
Gap between the rings	g
Input pressure	P_i
Young's Modulus	E
Ellipse height	h_{max}
MEA extension	h_i
MEA radius	r_i

Figure 3b

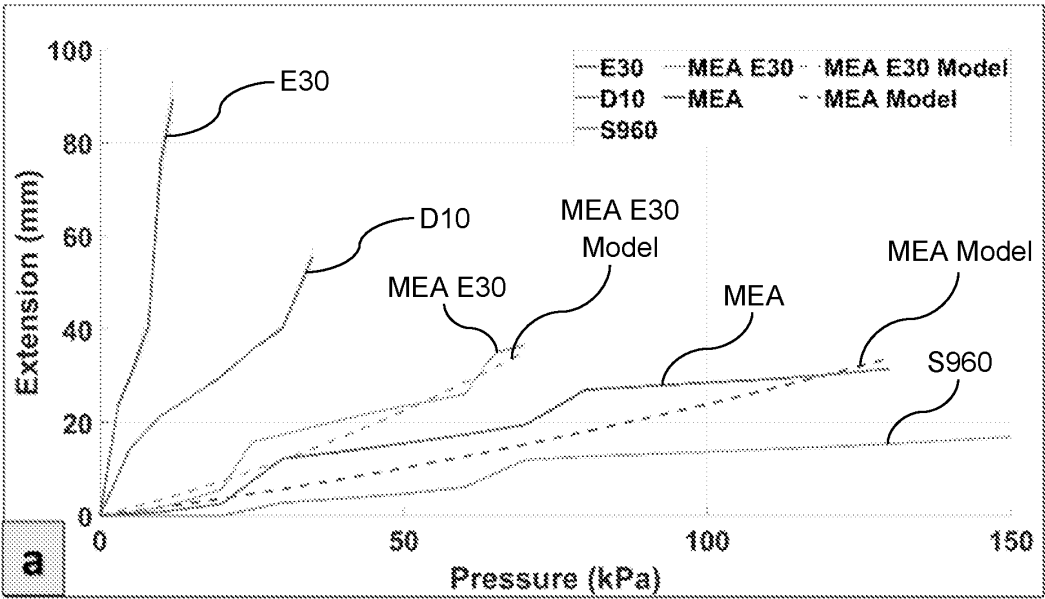


Figure 4a

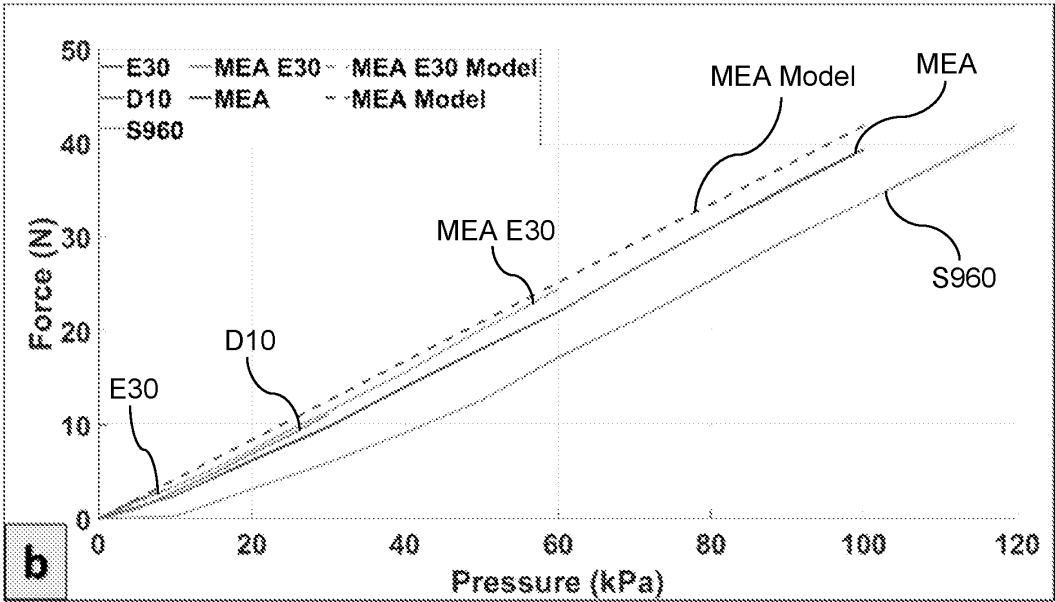


Figure 4b

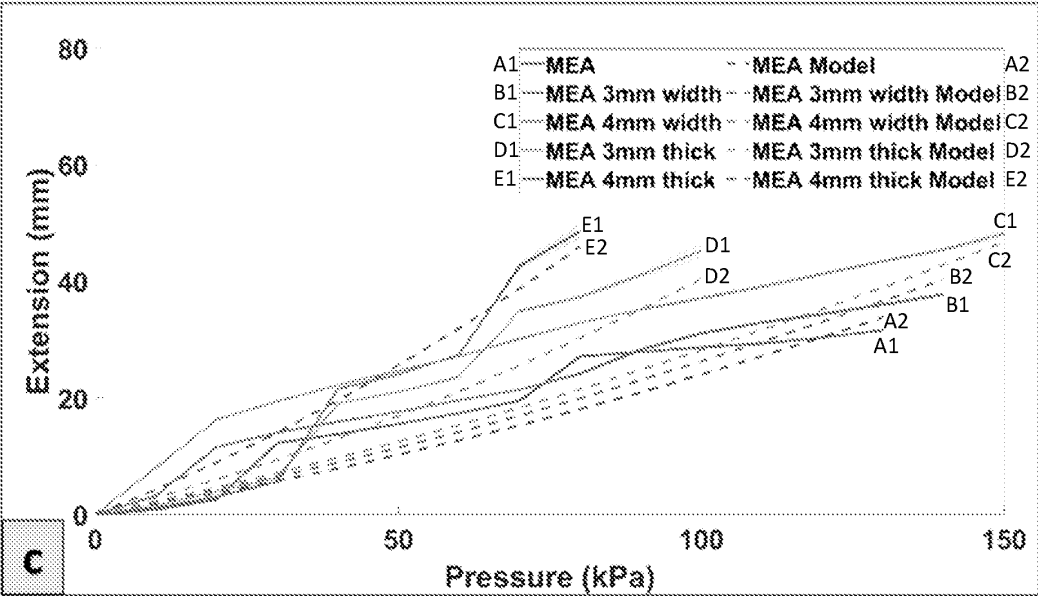


Figure 4c

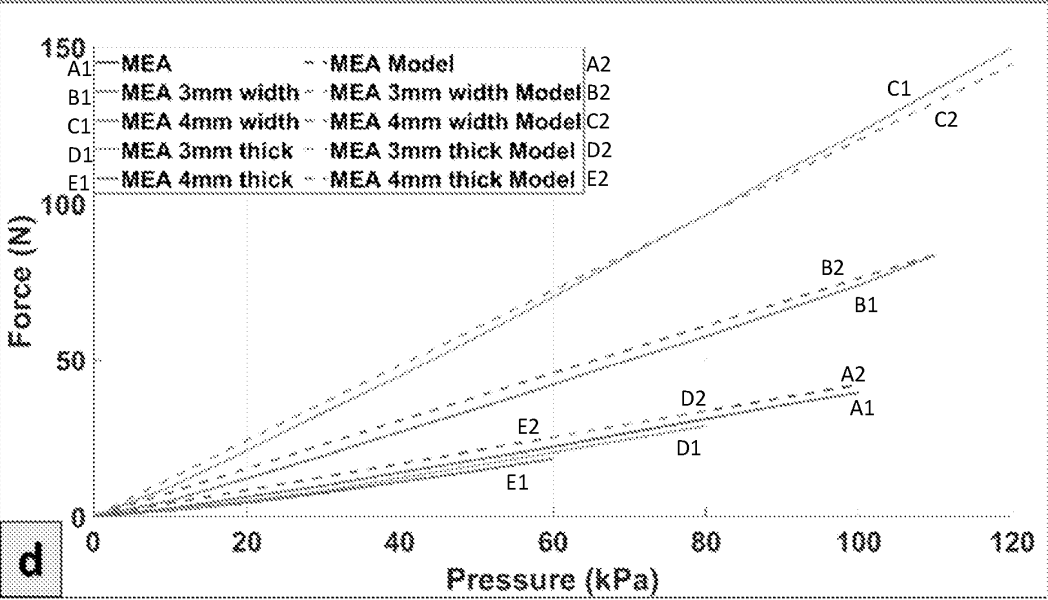


Figure 4d

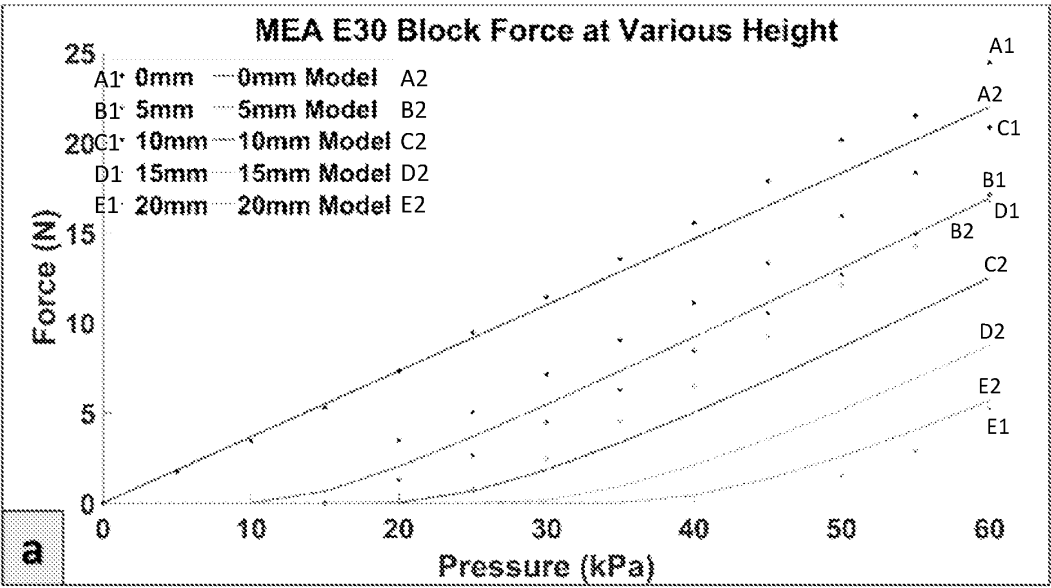


Figure 5a

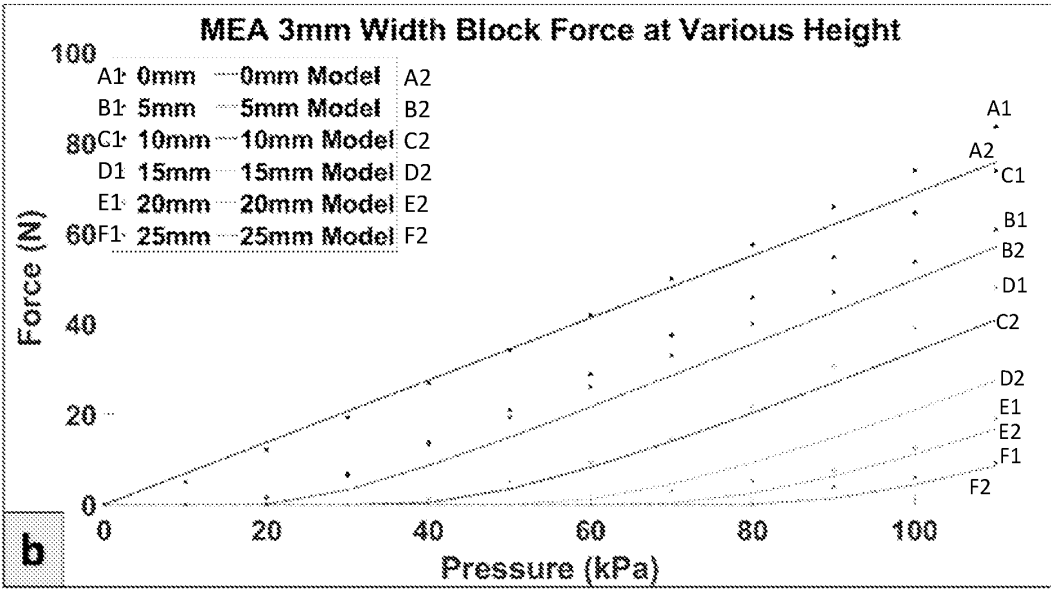


Figure 5b

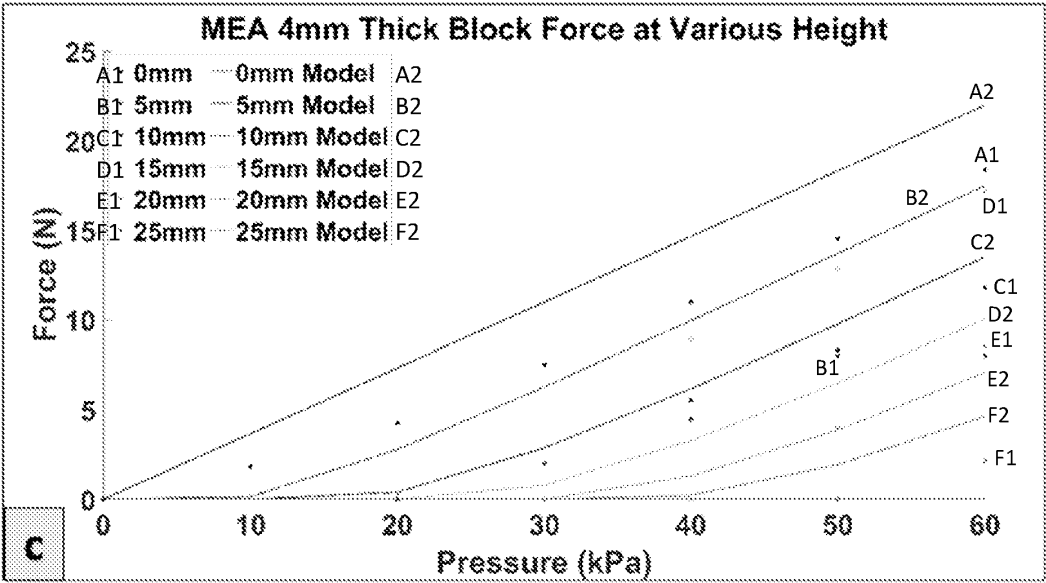


Figure 5c

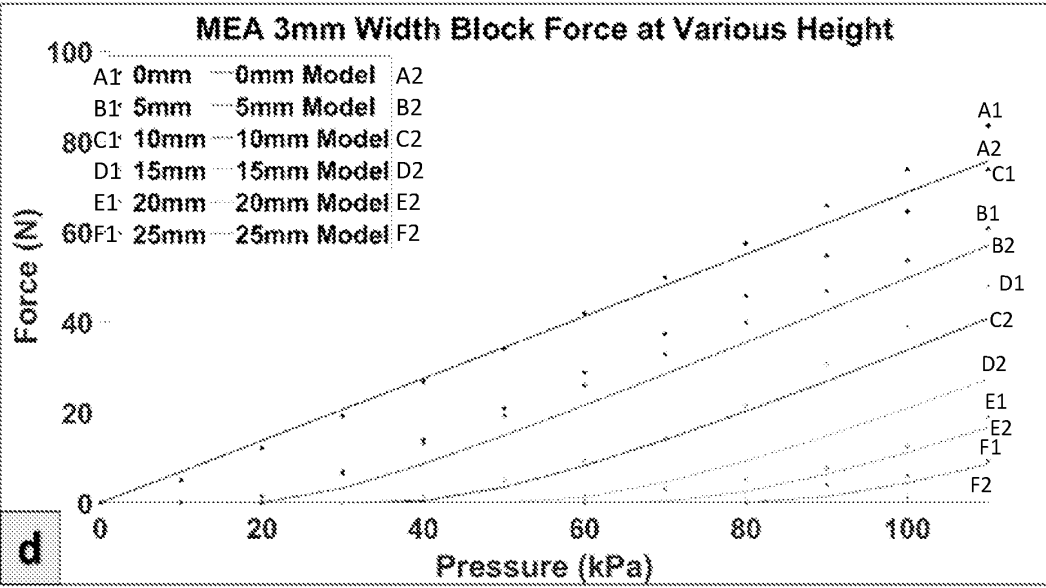


Figure 5d

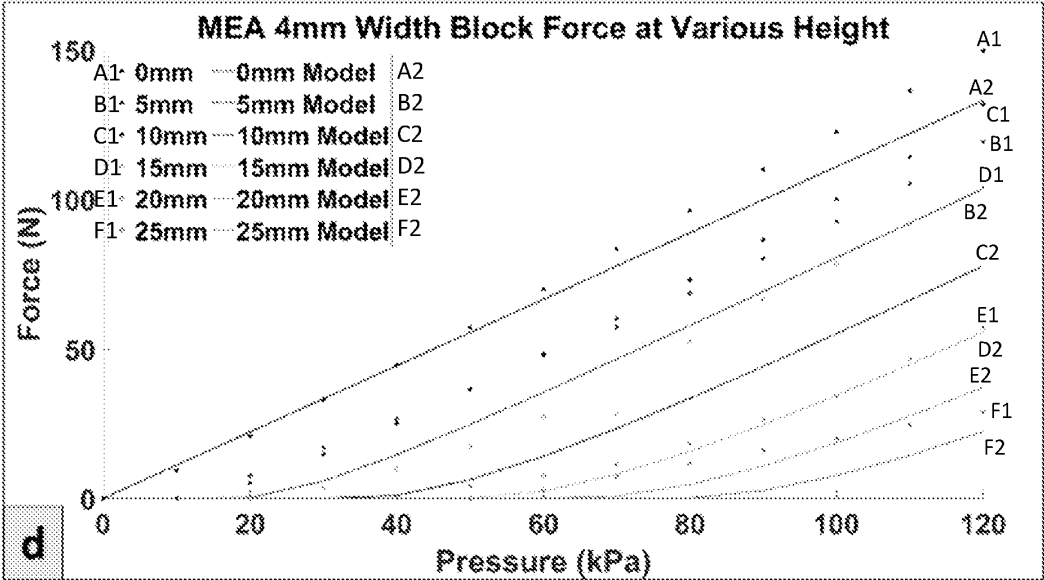


Figure 5e

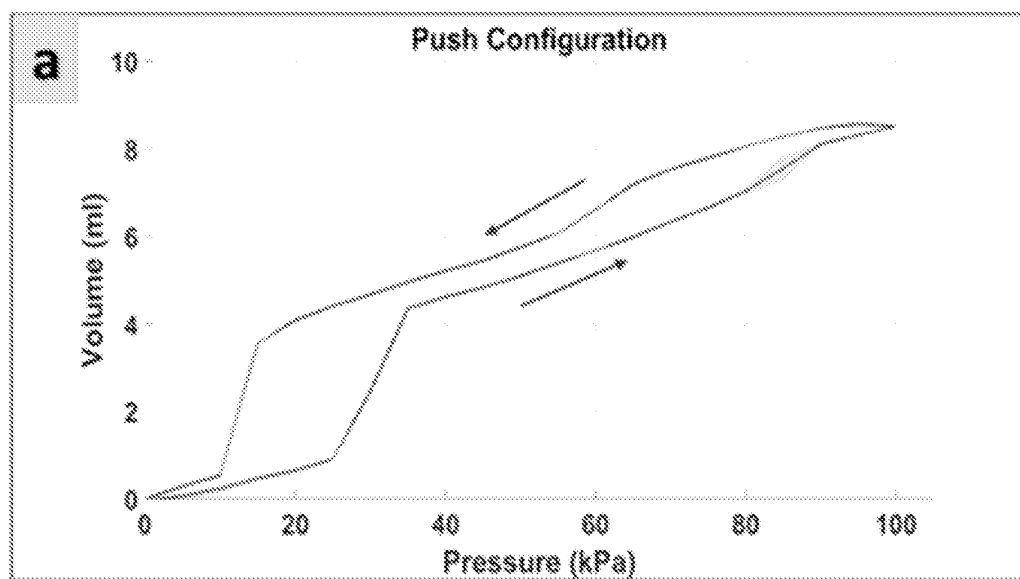
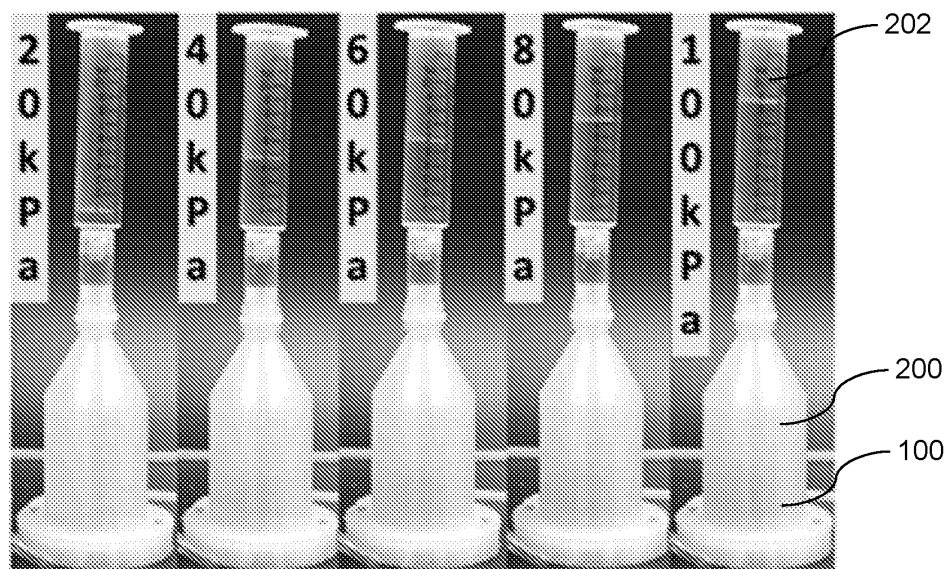


Figure 6a

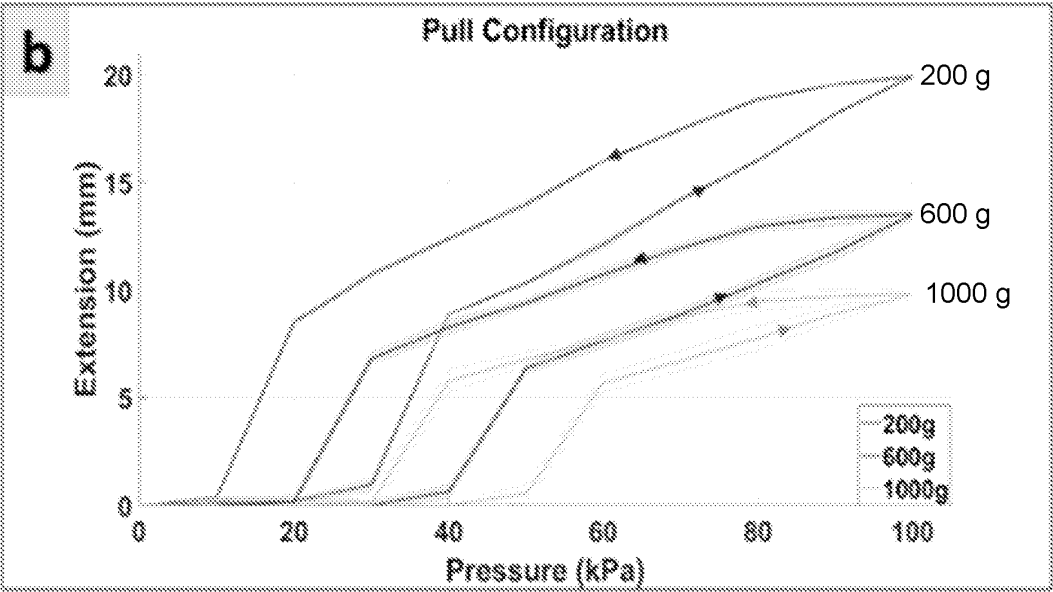
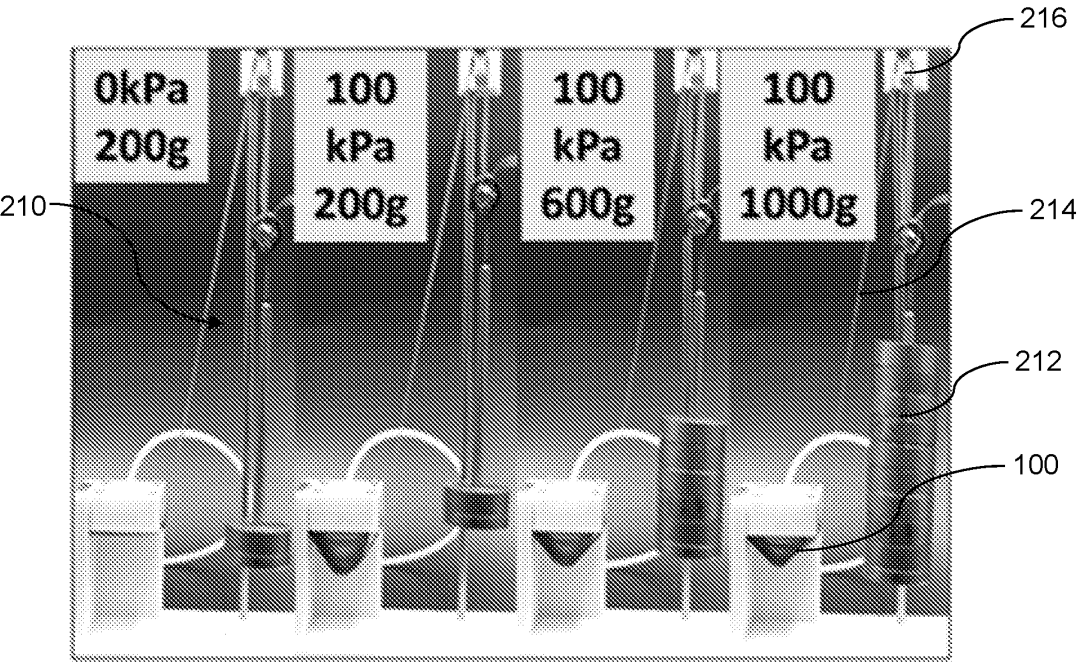


Figure 6b

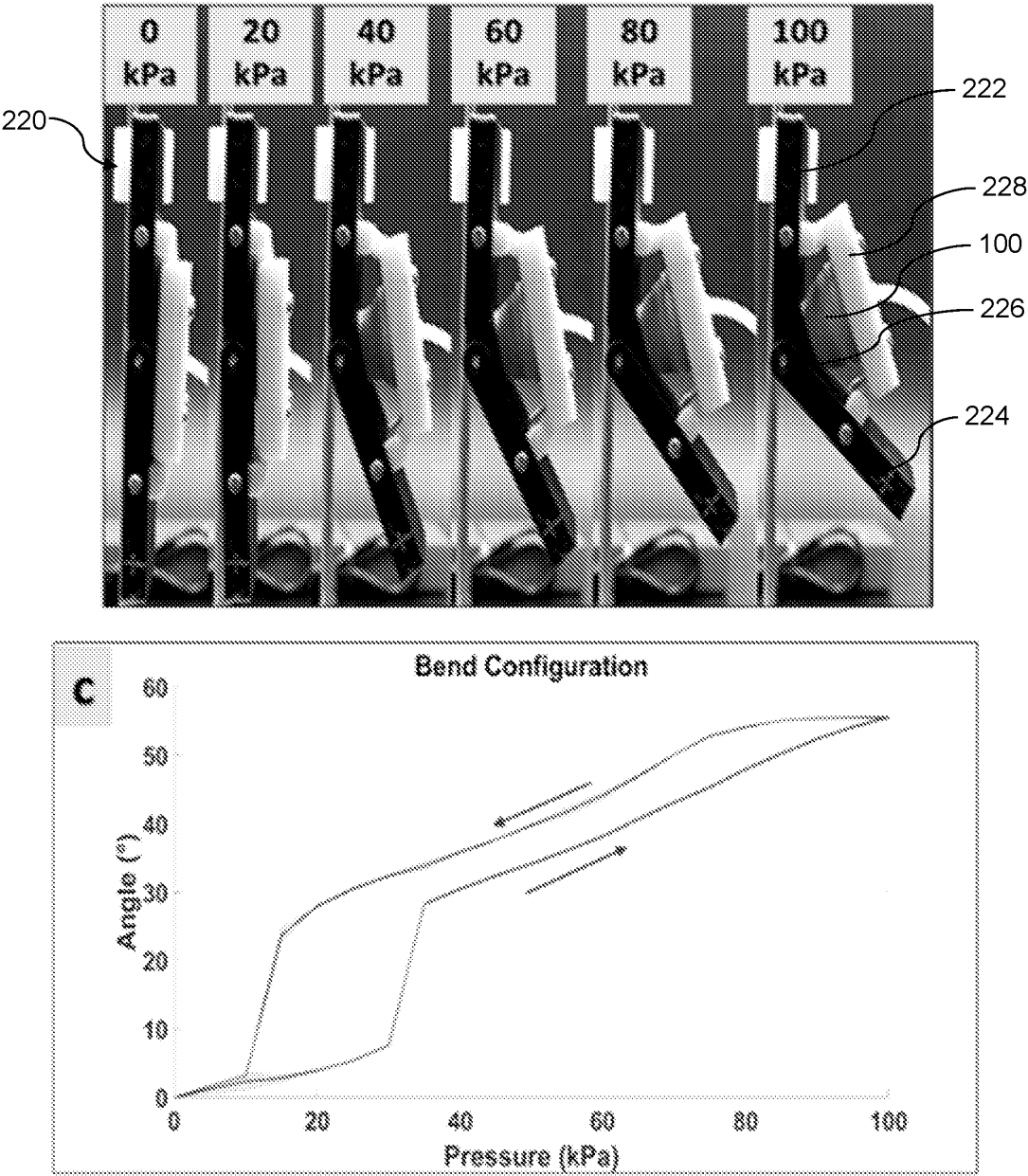


Figure 6c

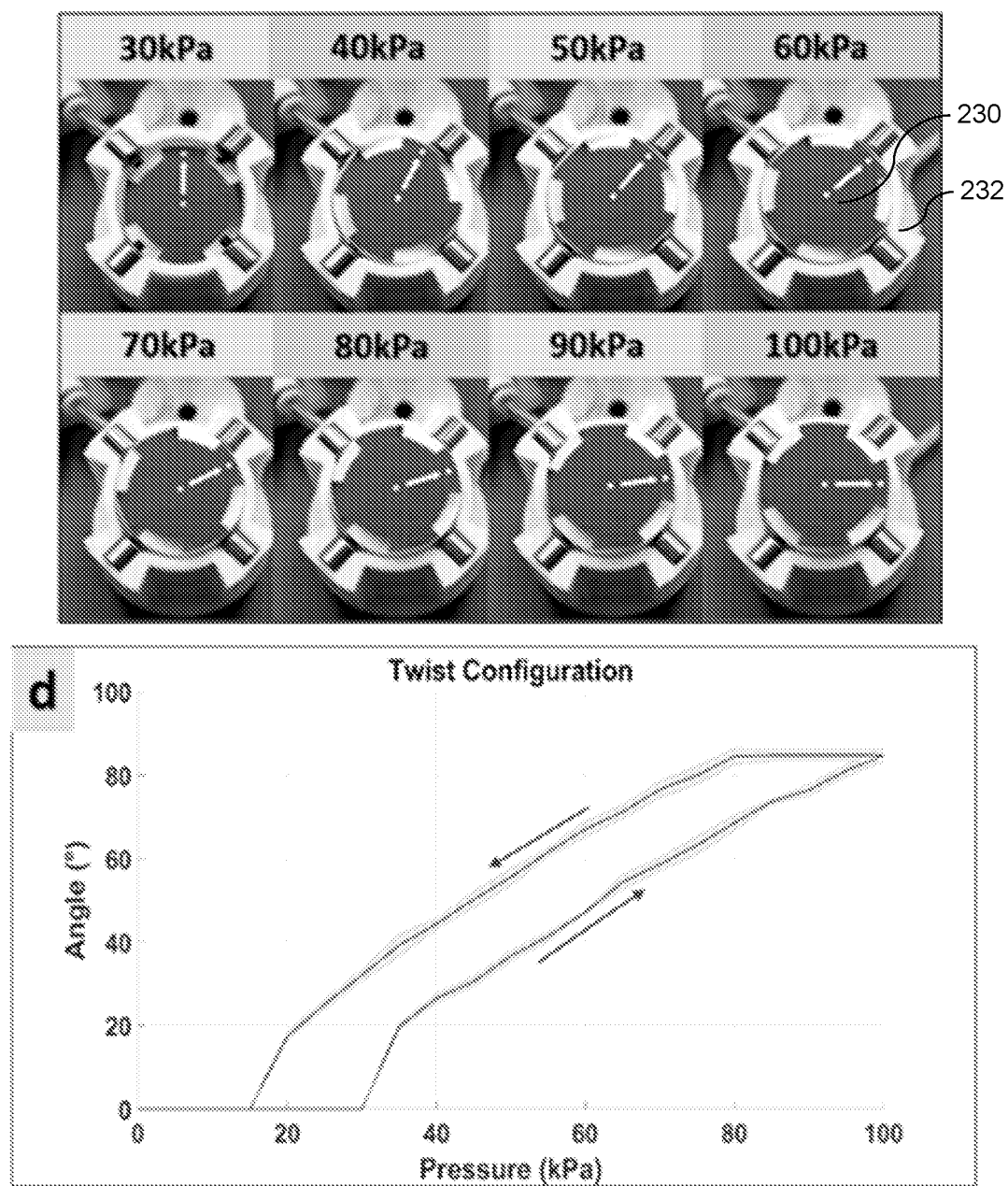


Figure 6d

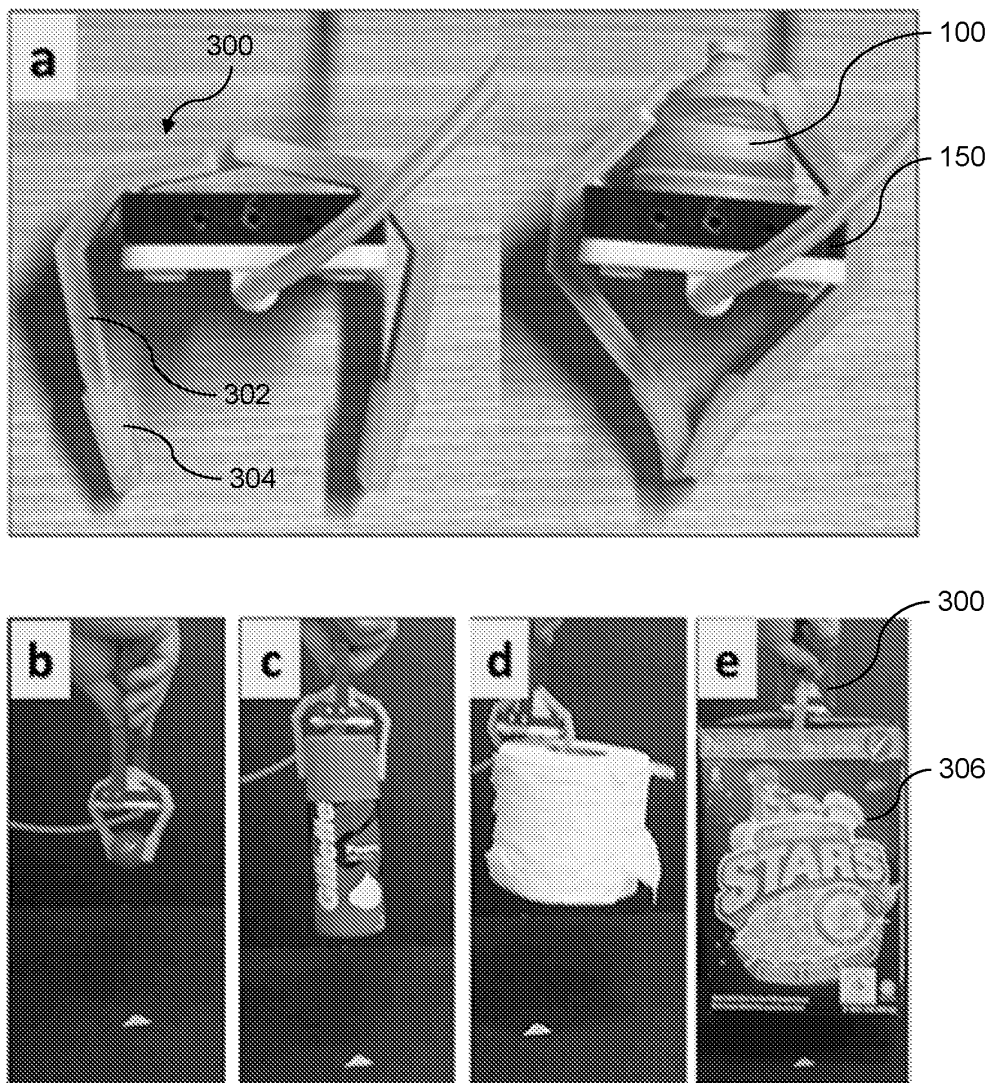


Figure 7 (7a-7e)

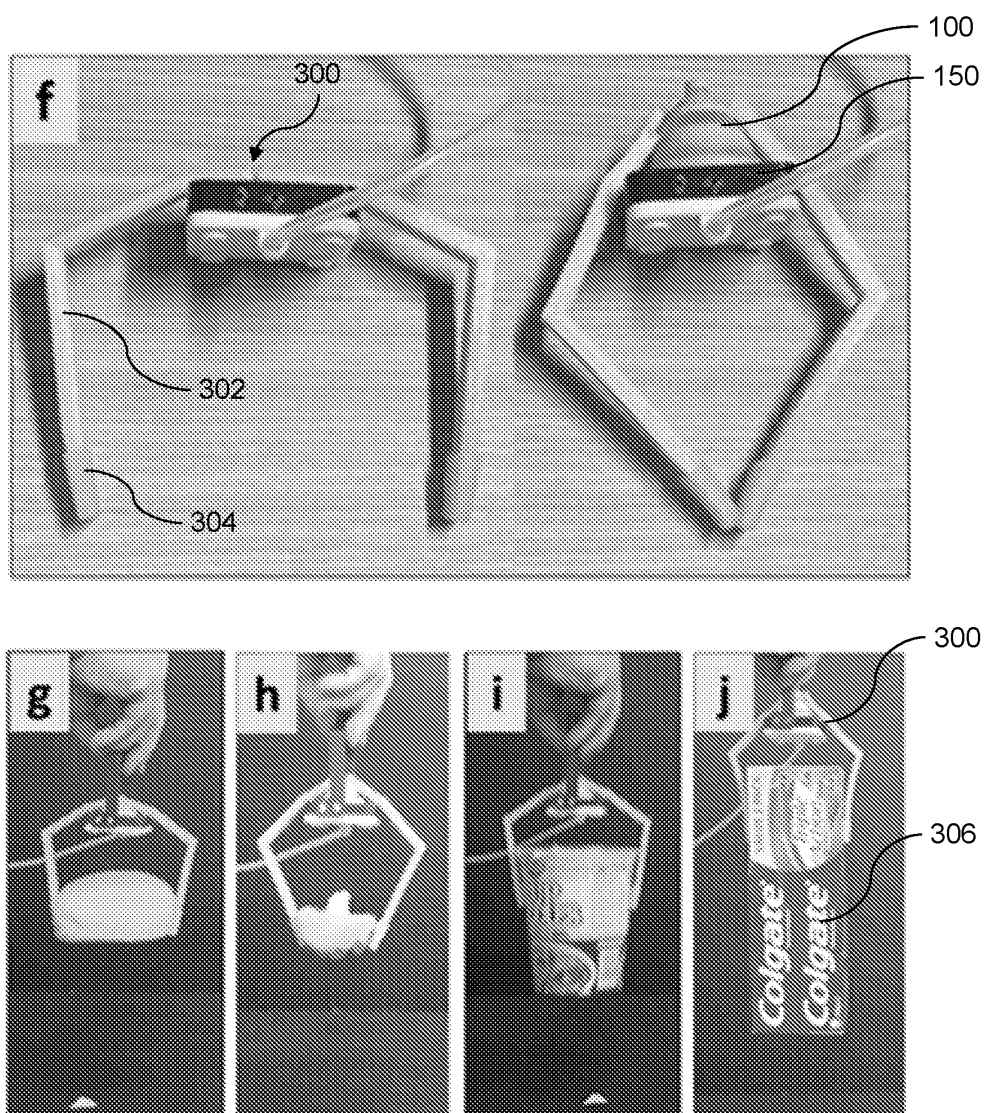


Figure 7 (7f-7j)

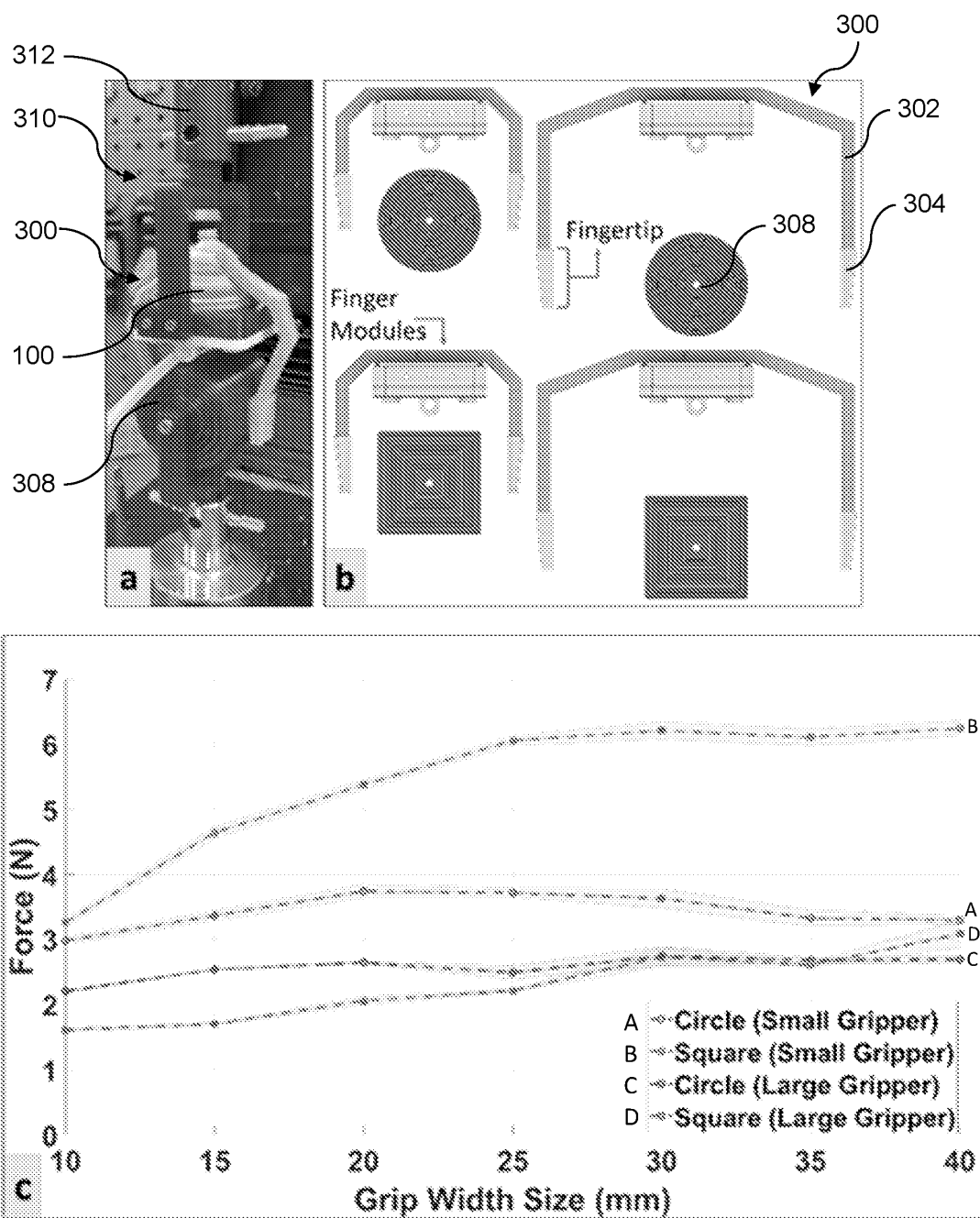


Figure 8

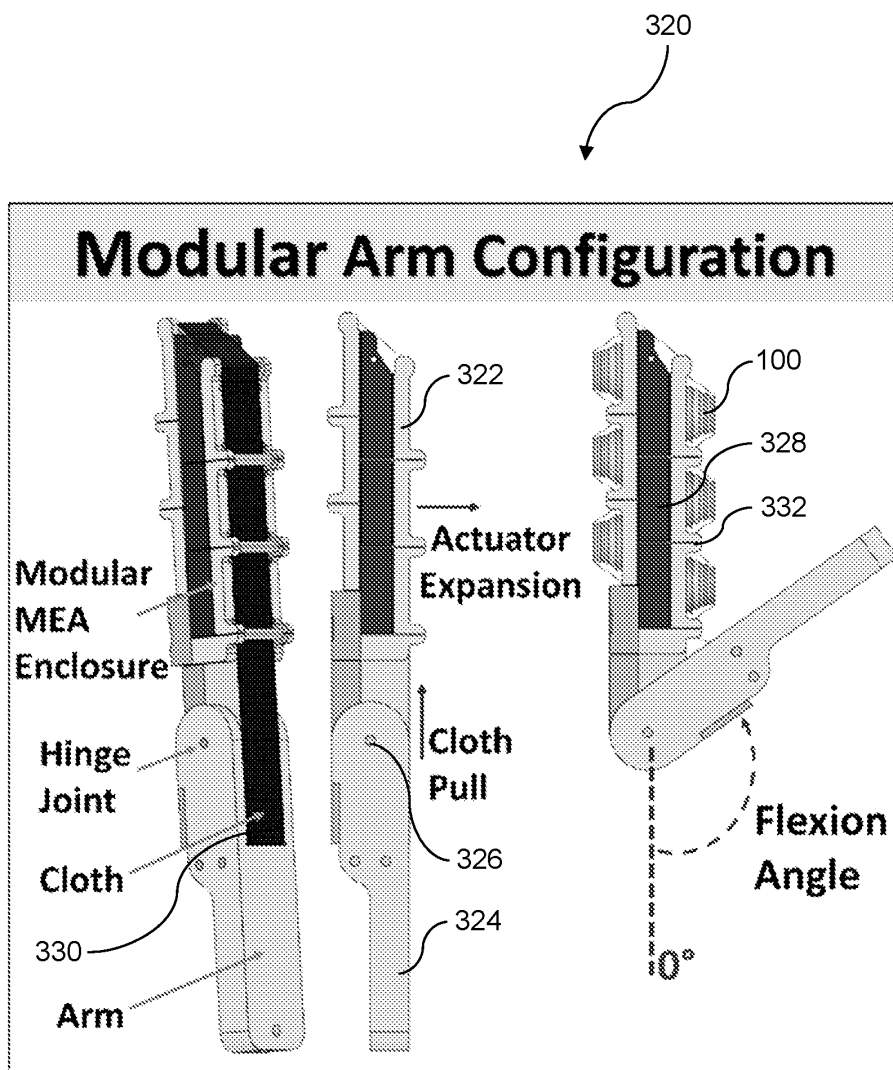


Figure 9

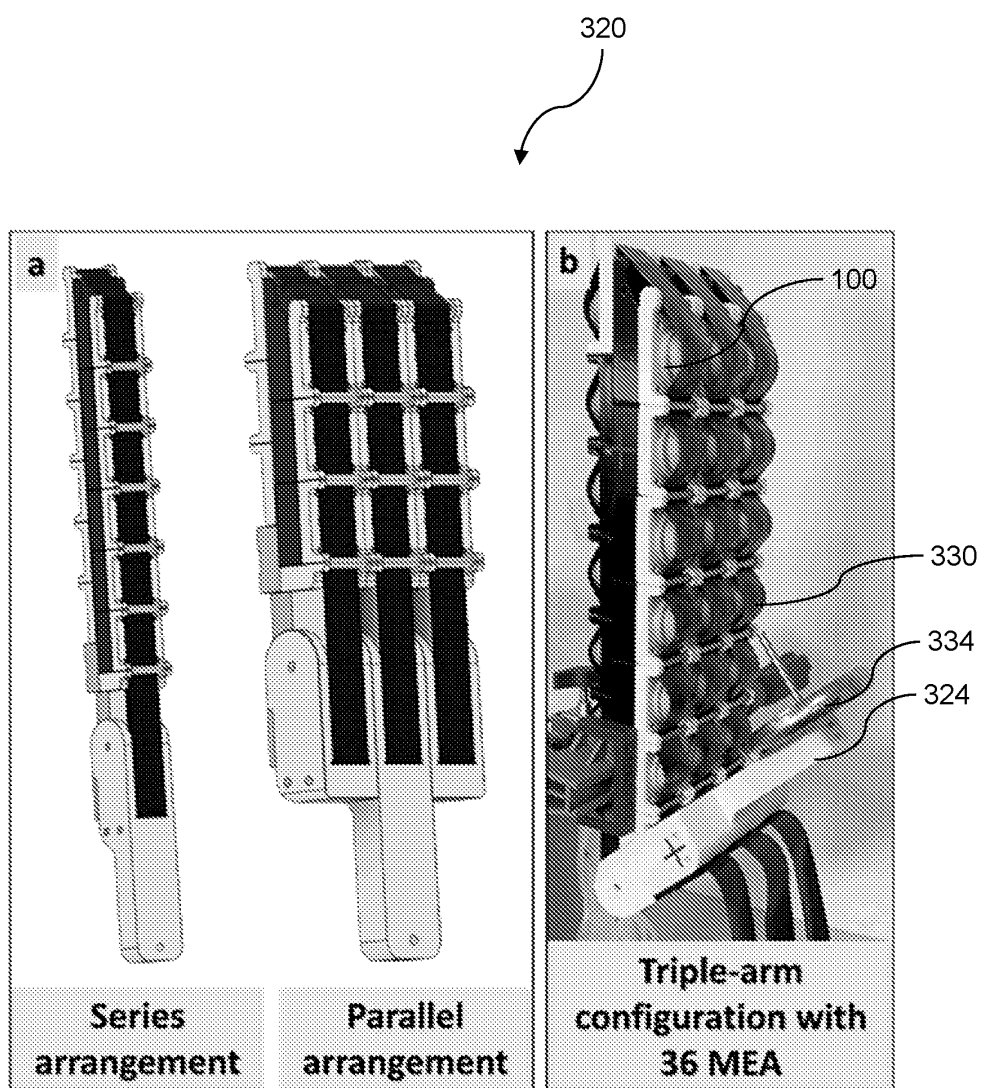


Figure 10

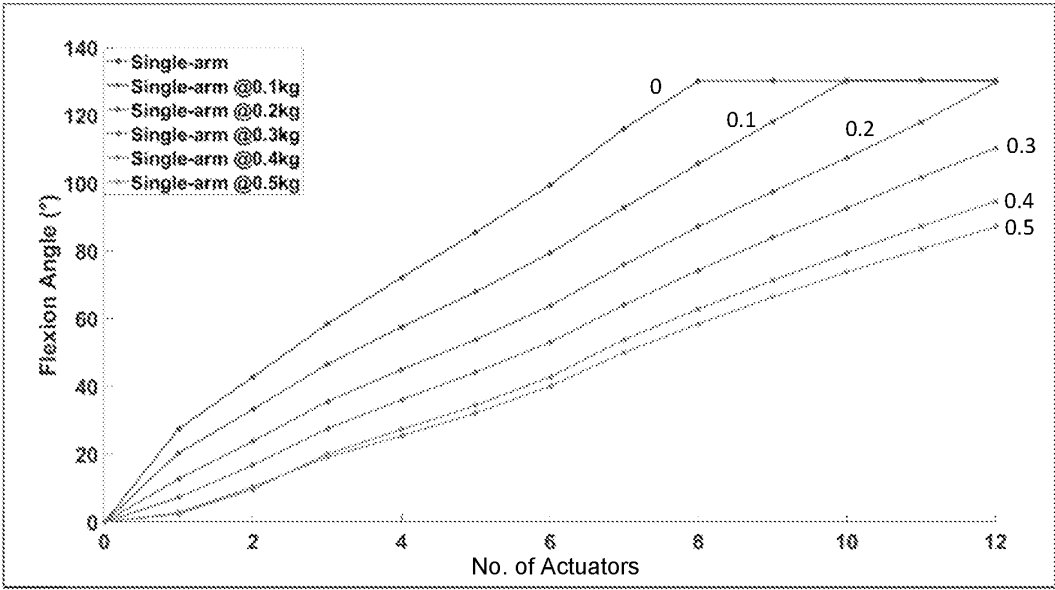


Figure 11a

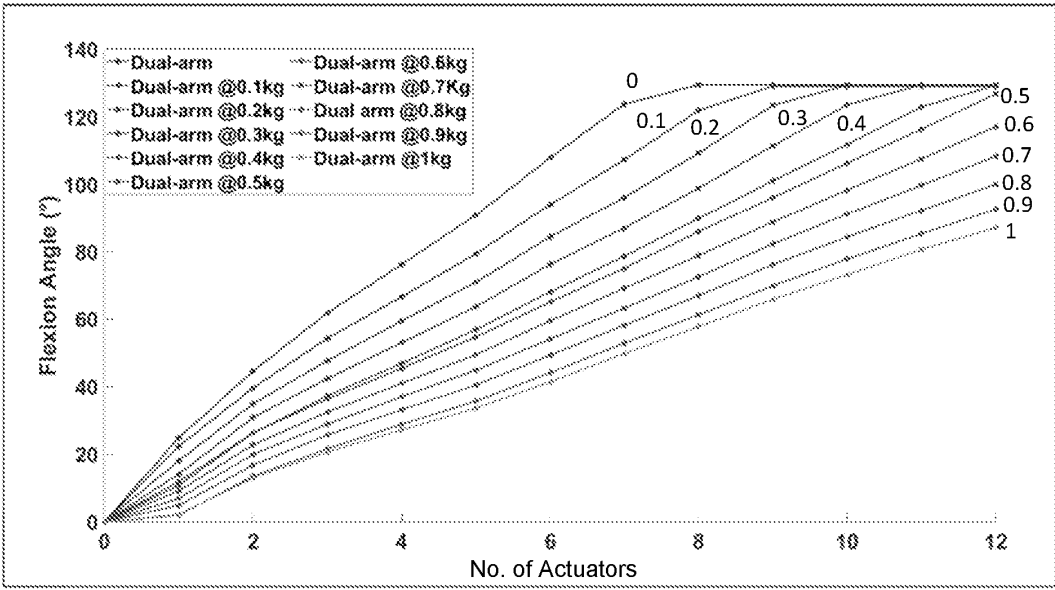


Figure 11b

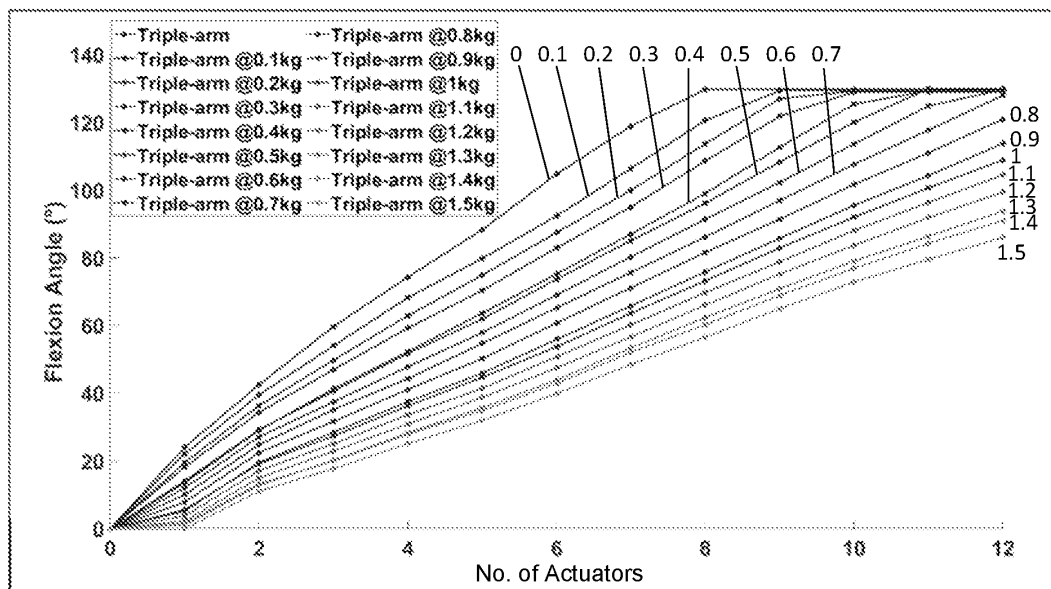


Figure 11c

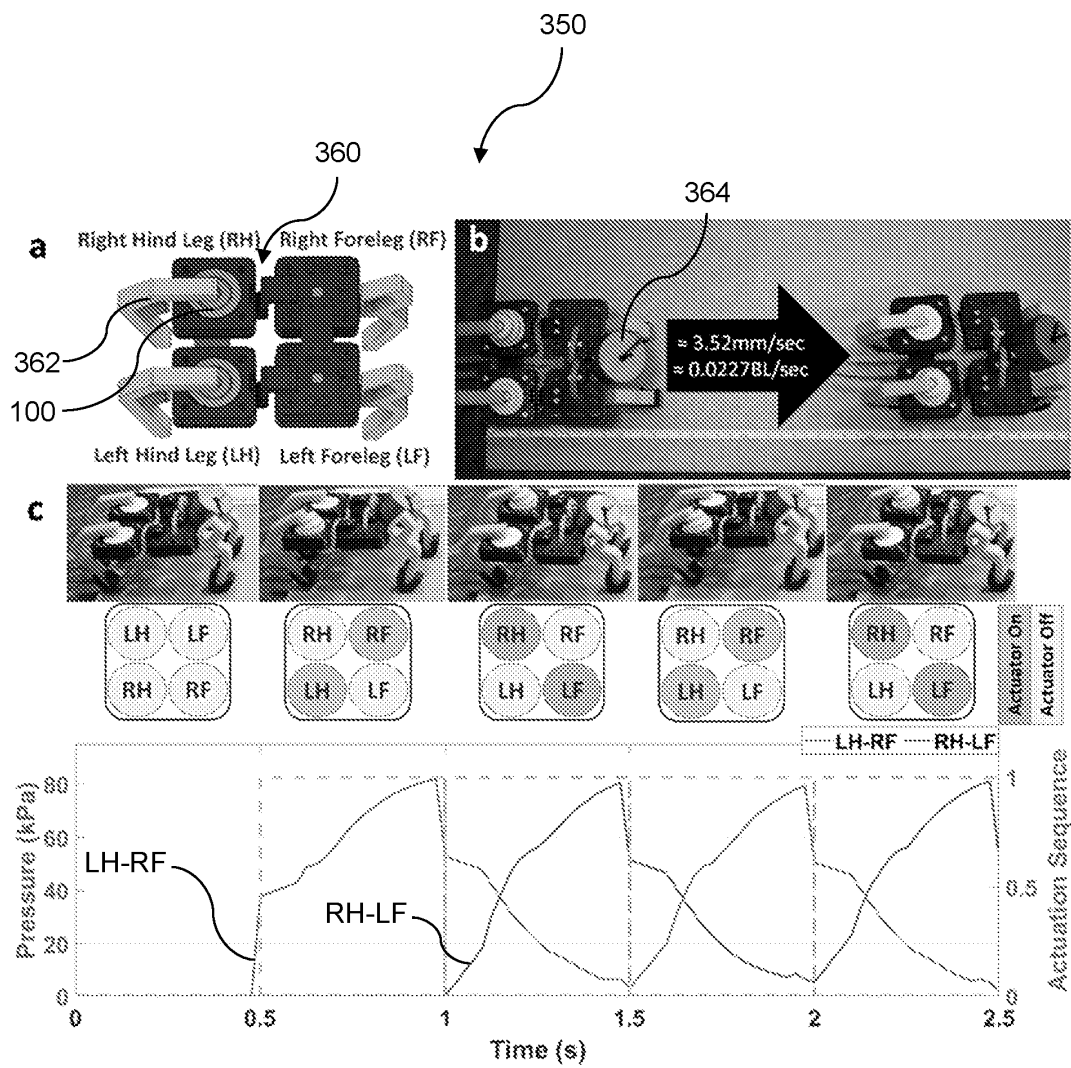


Figure 12

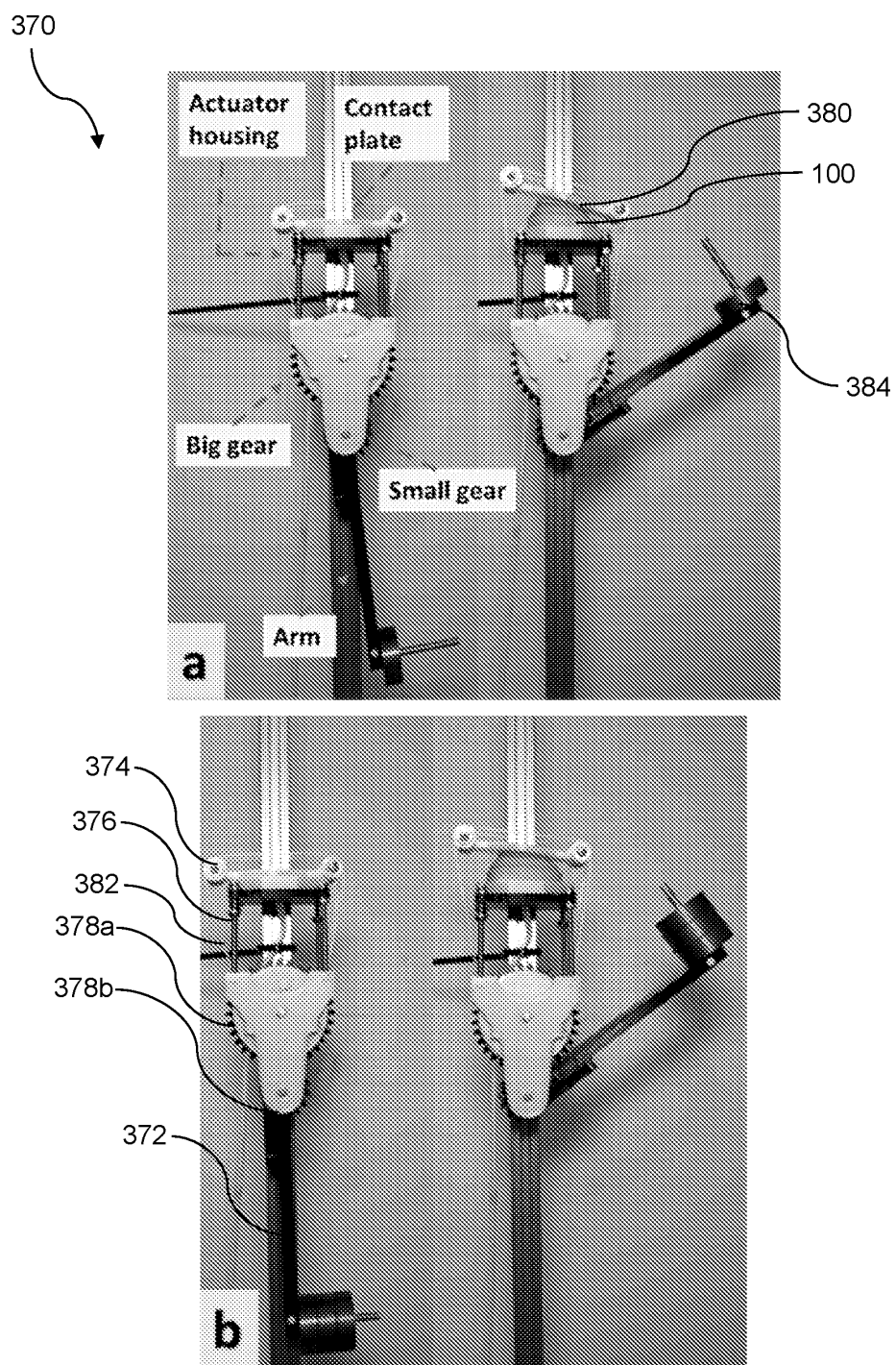


Figure 13

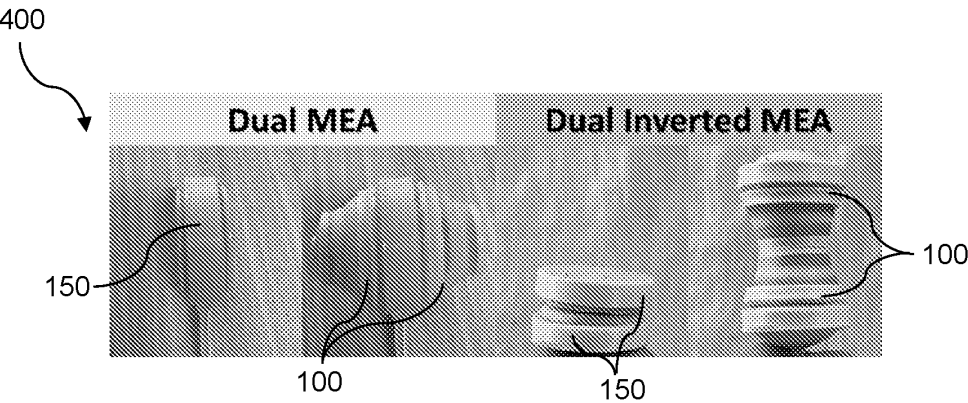


Figure 14

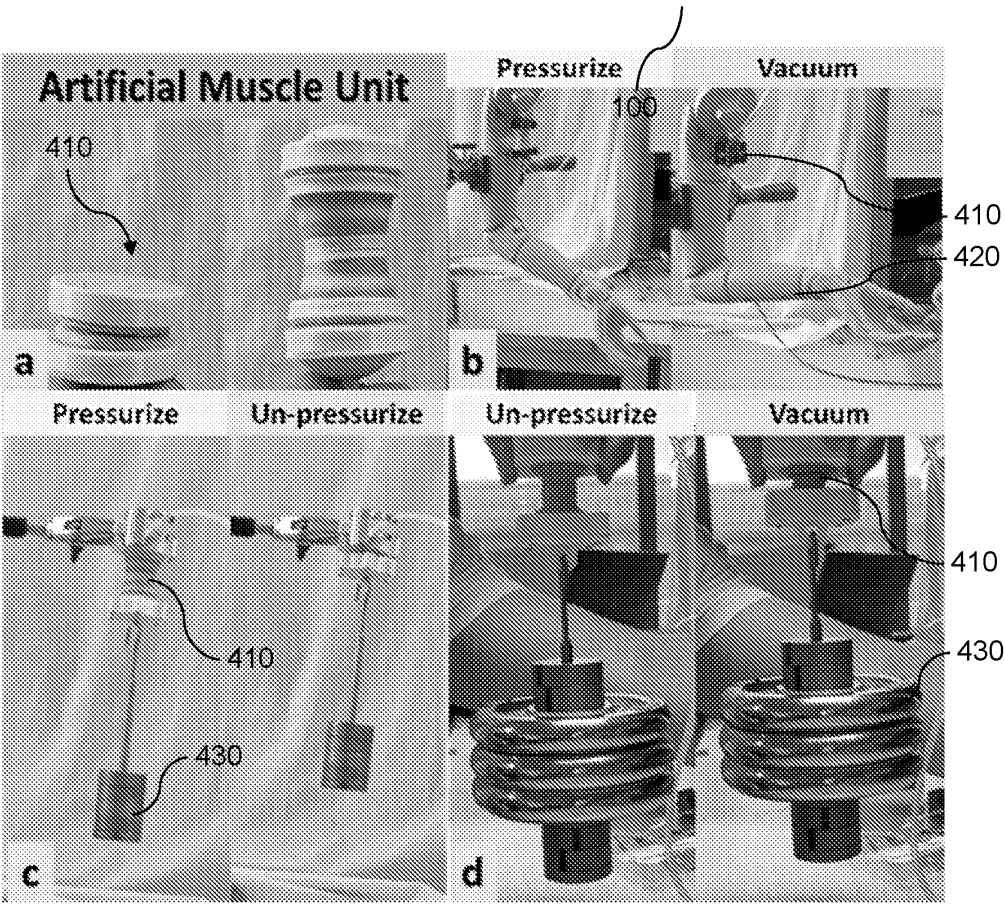


Figure 15

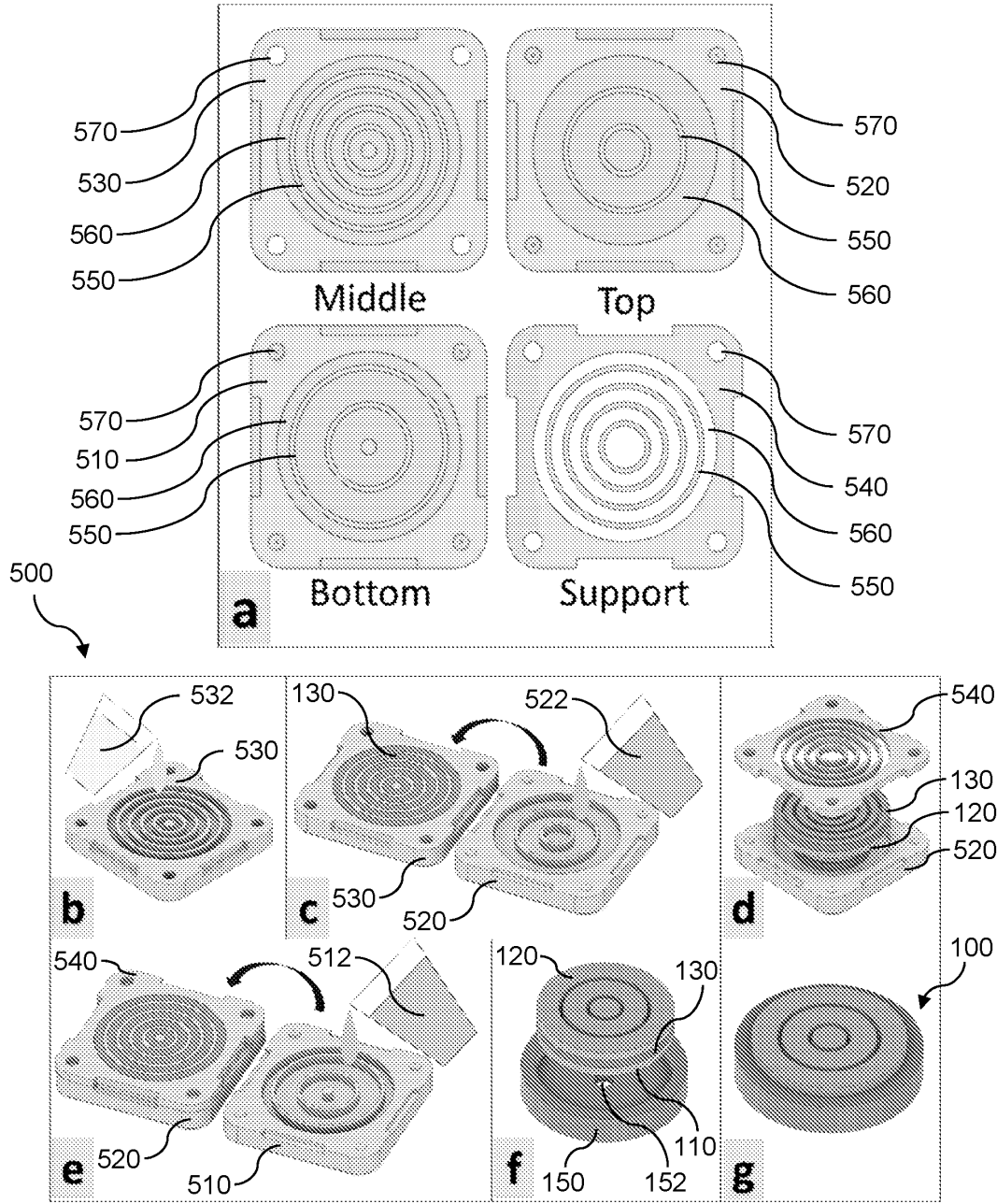


Figure 16

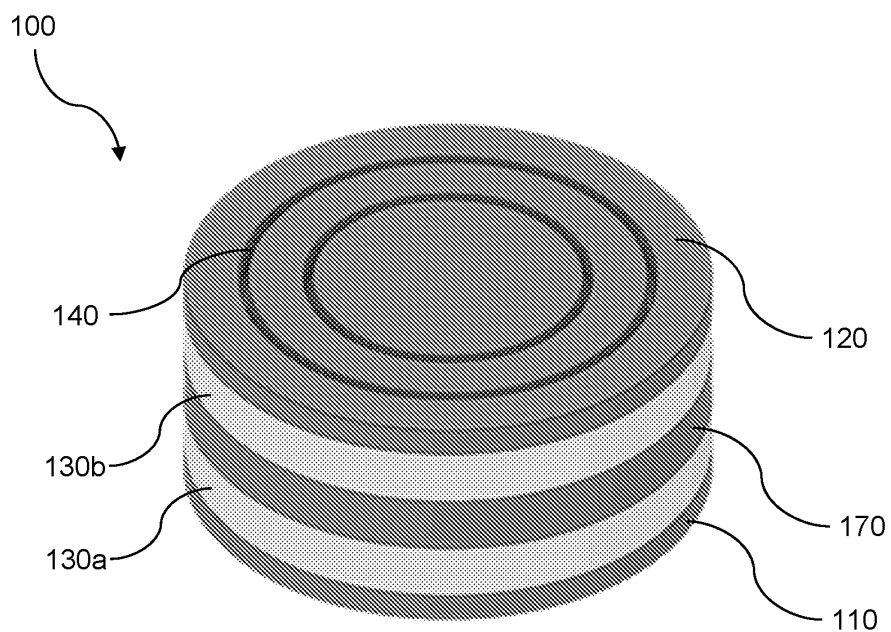


Figure 17a

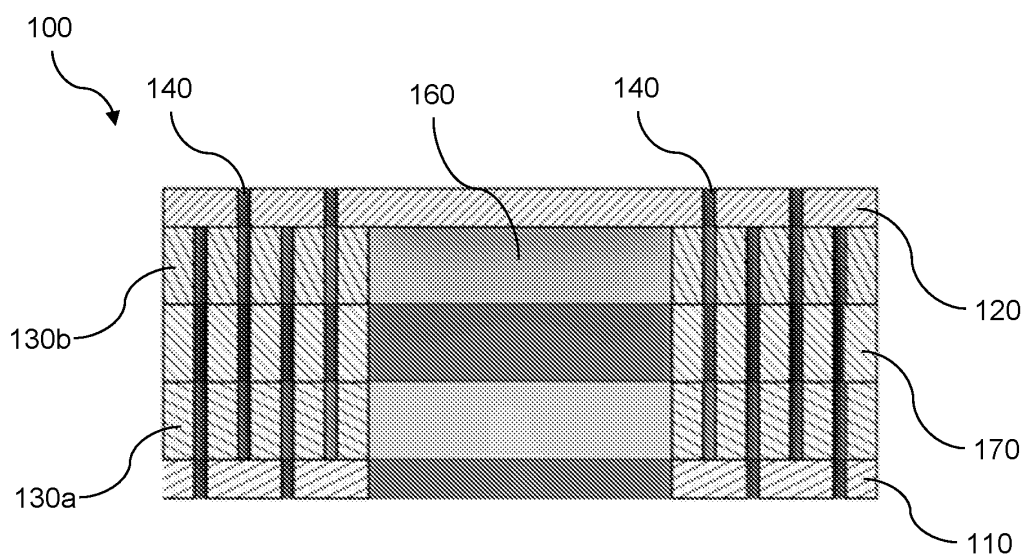


Figure 17b

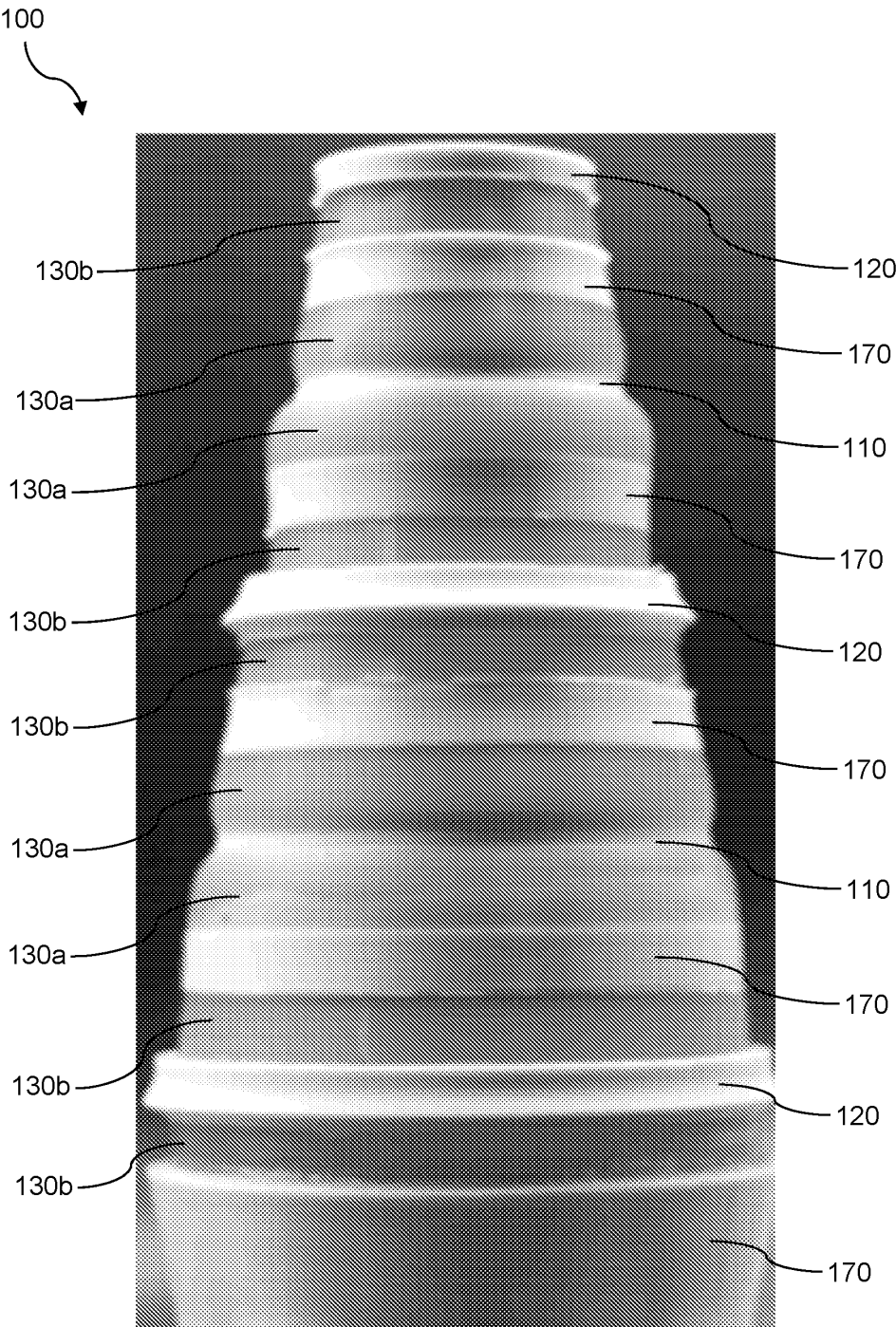


Figure 17c

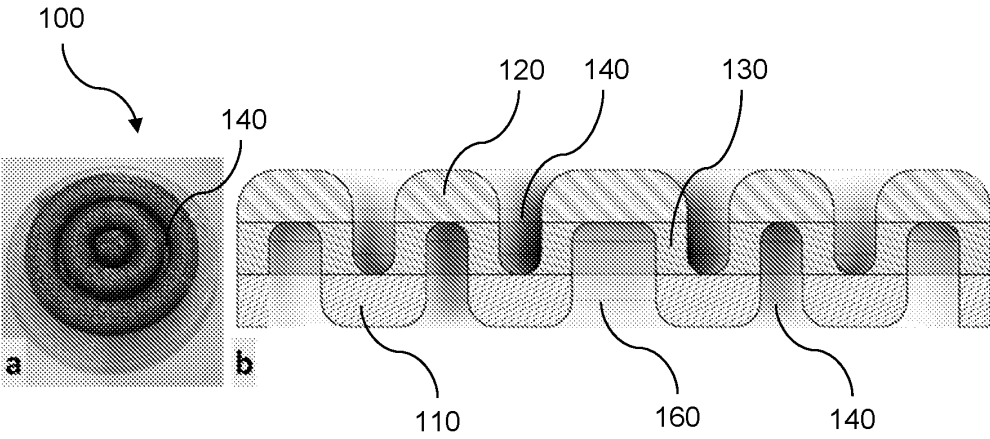


Figure 18 (18a-18b)

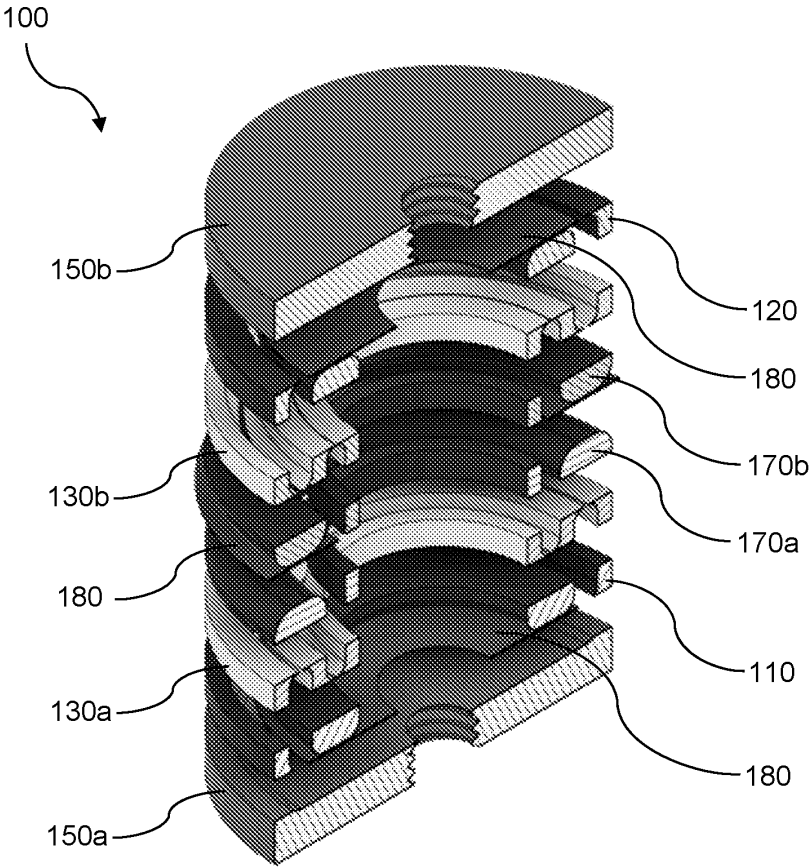


Figure 18c

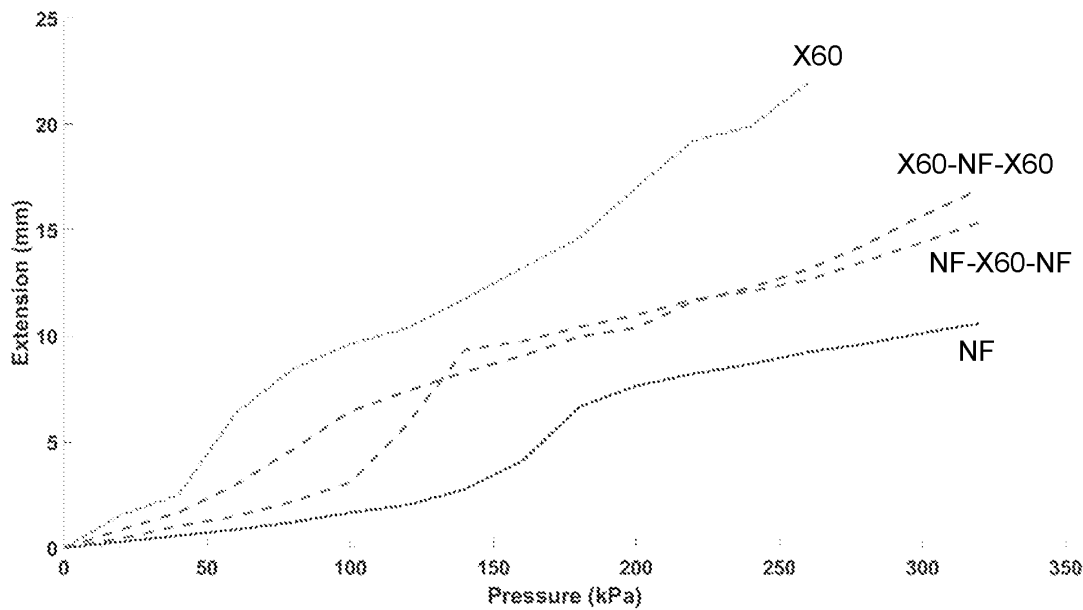


Figure 19a

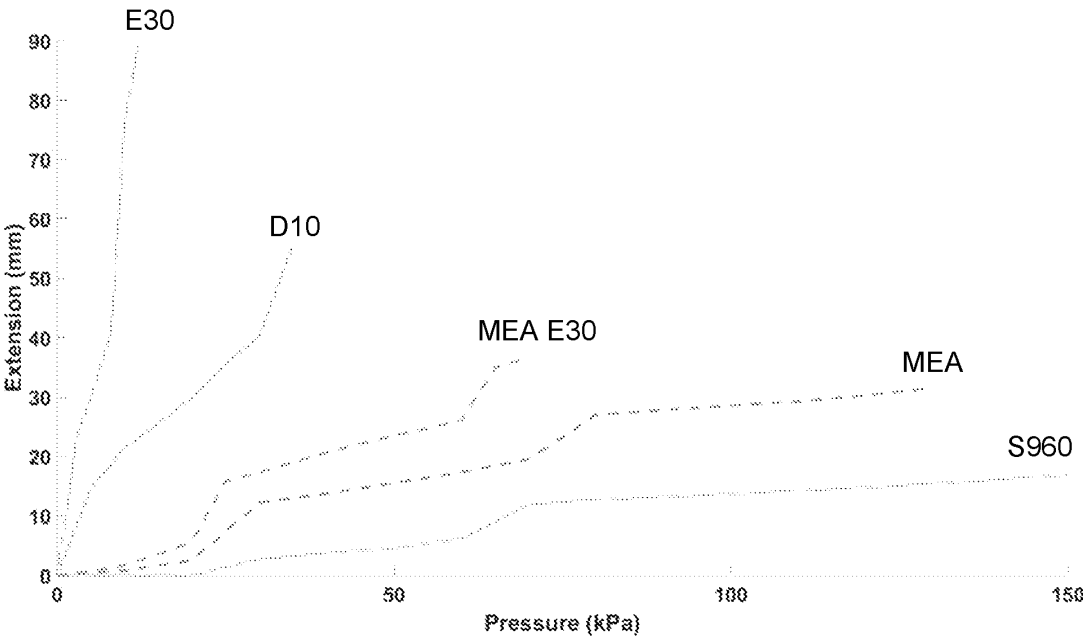


Figure 19b

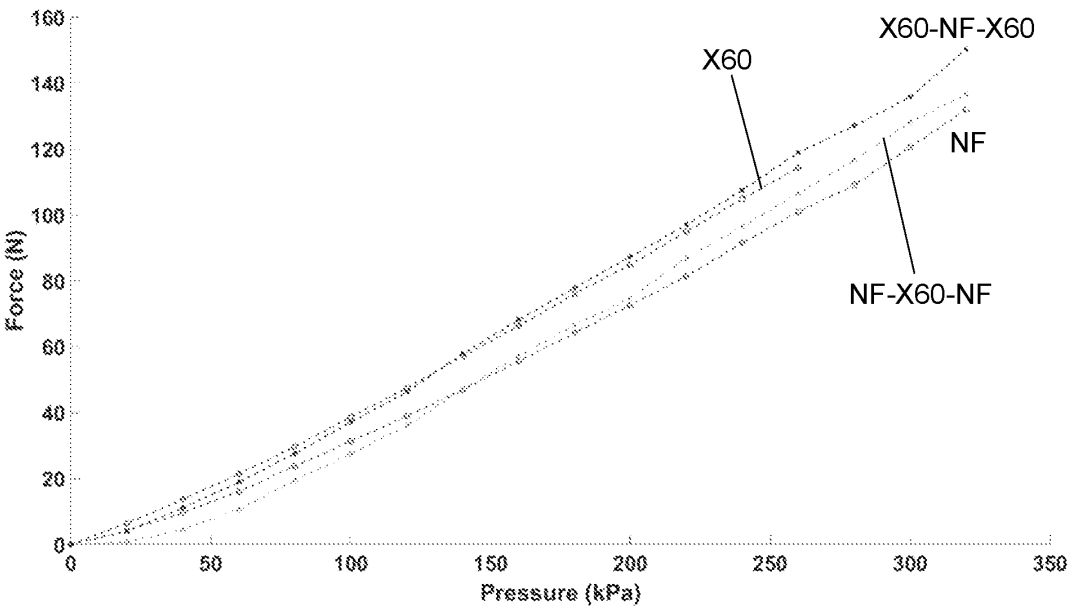


Figure 20a

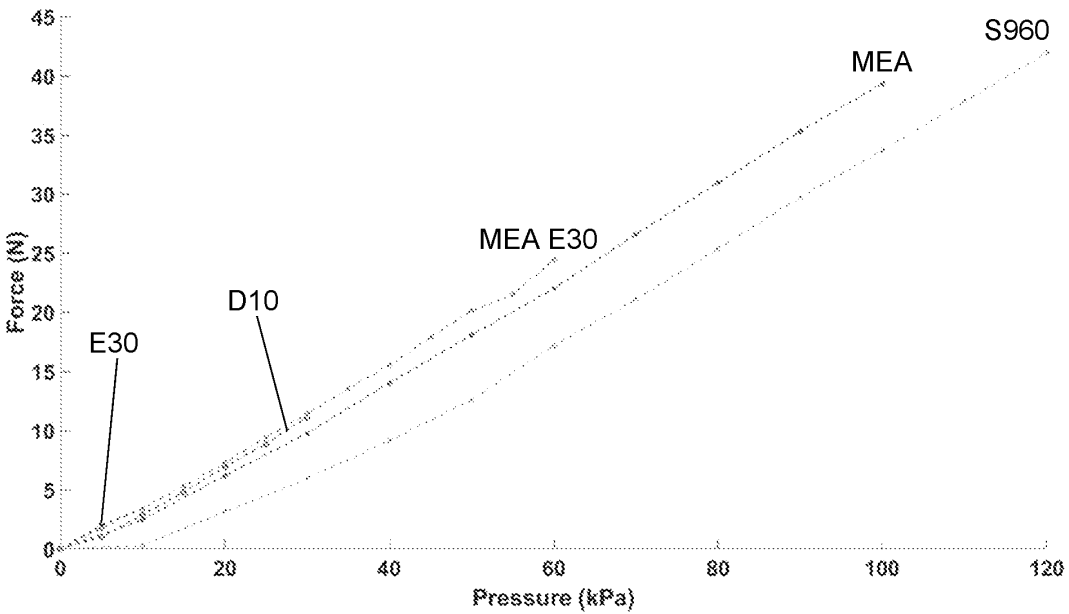


Figure 20b

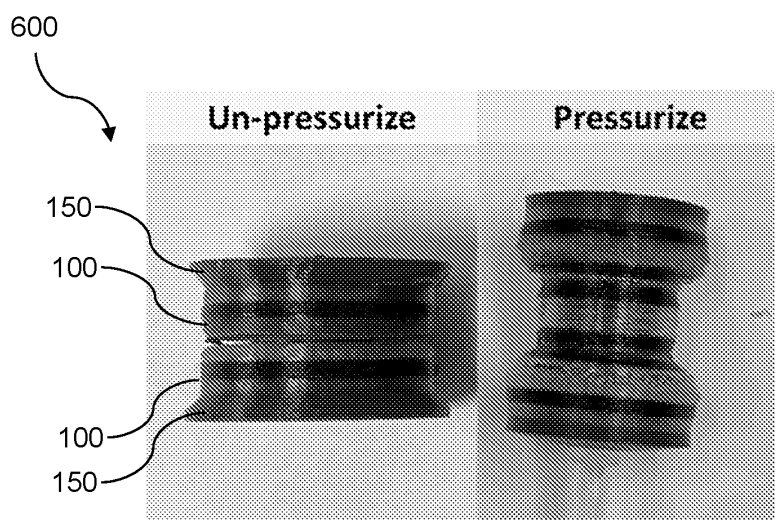


Figure 21

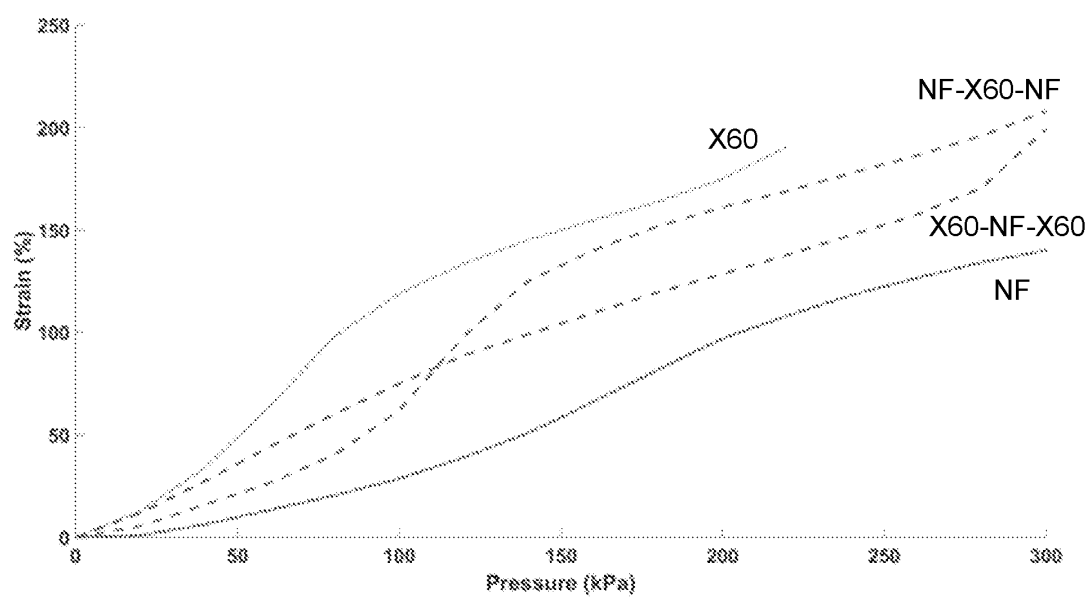


Figure 22

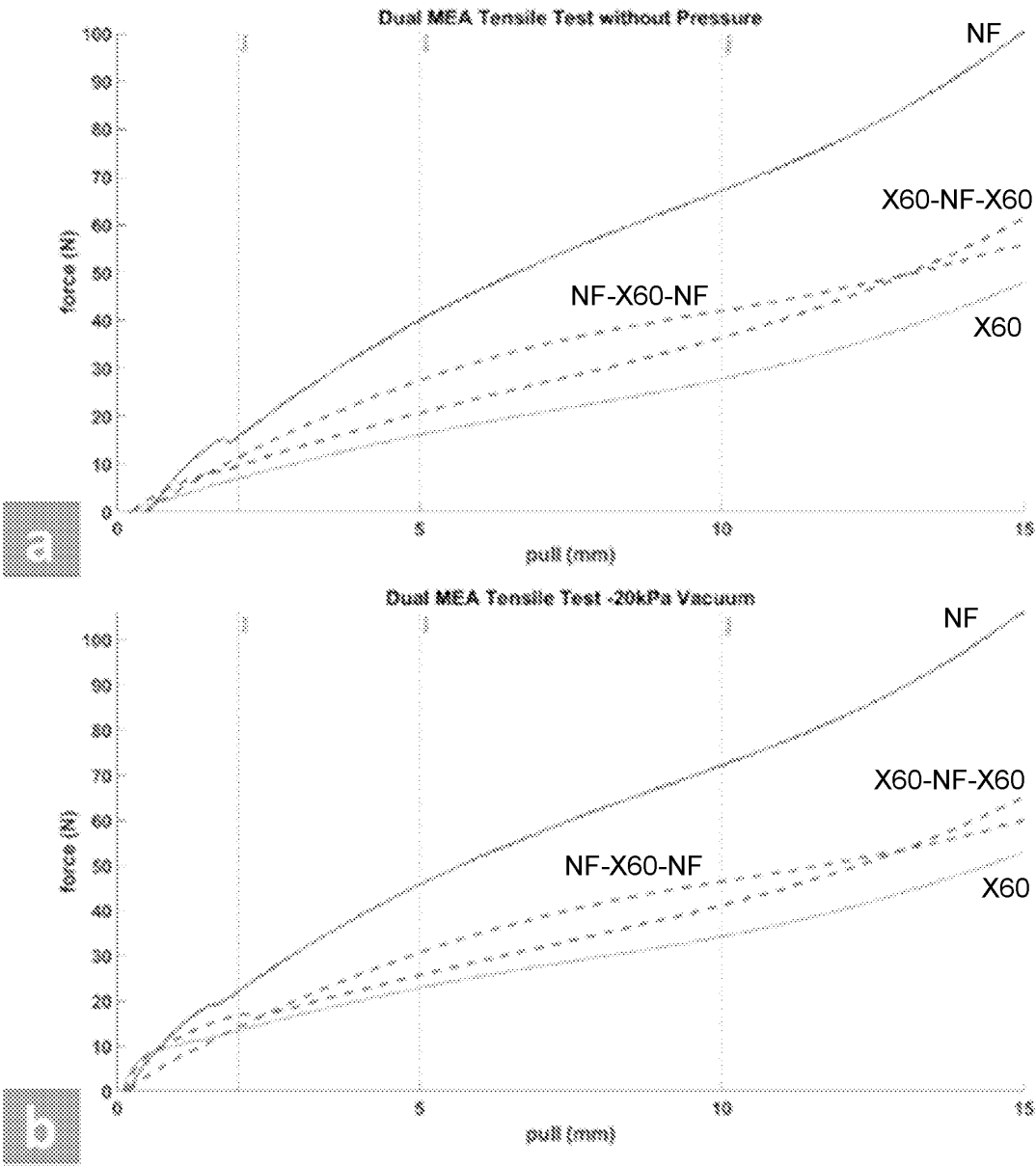


Figure 23 (23a-23b)

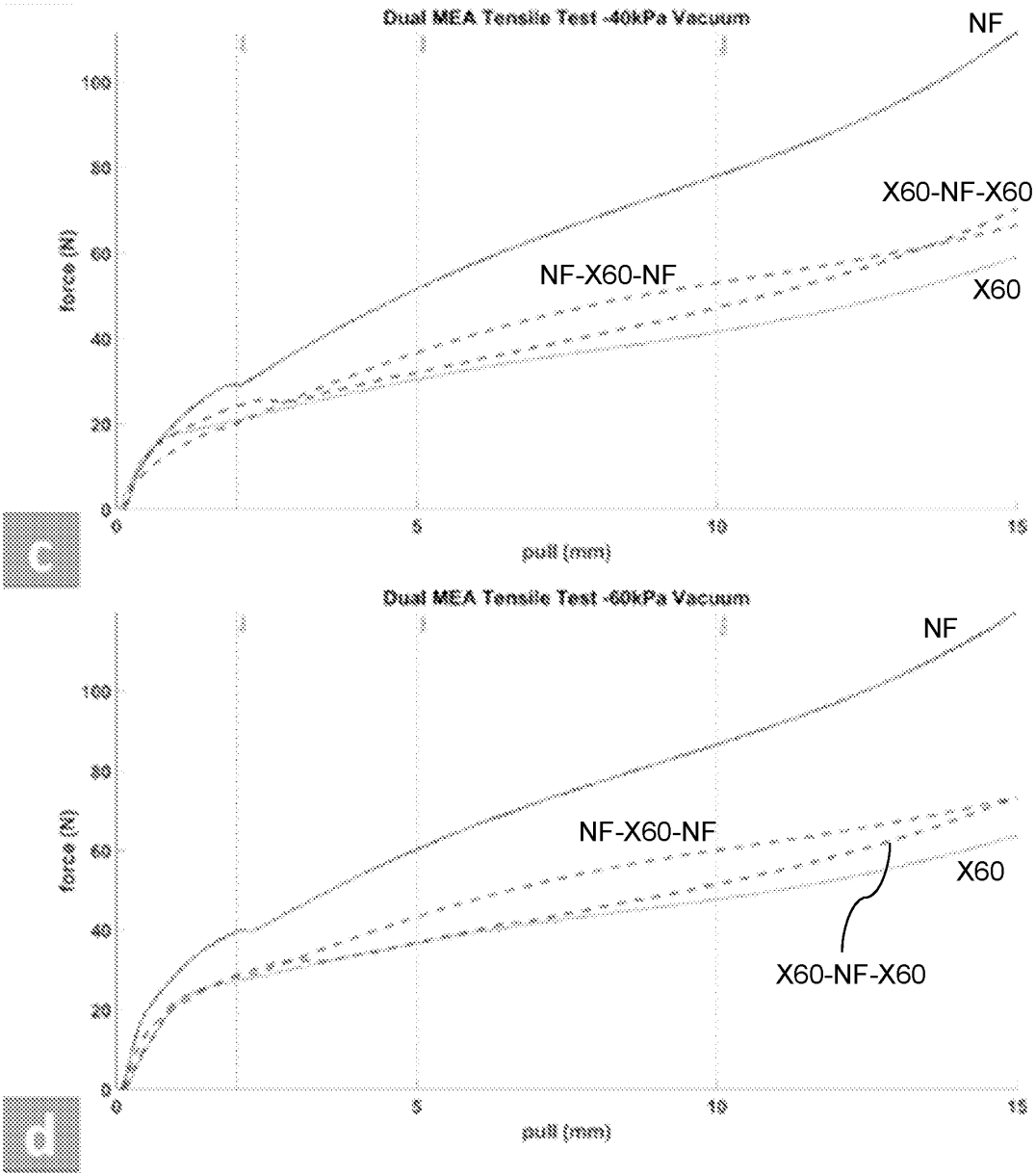


Figure 23 (23c-23d)

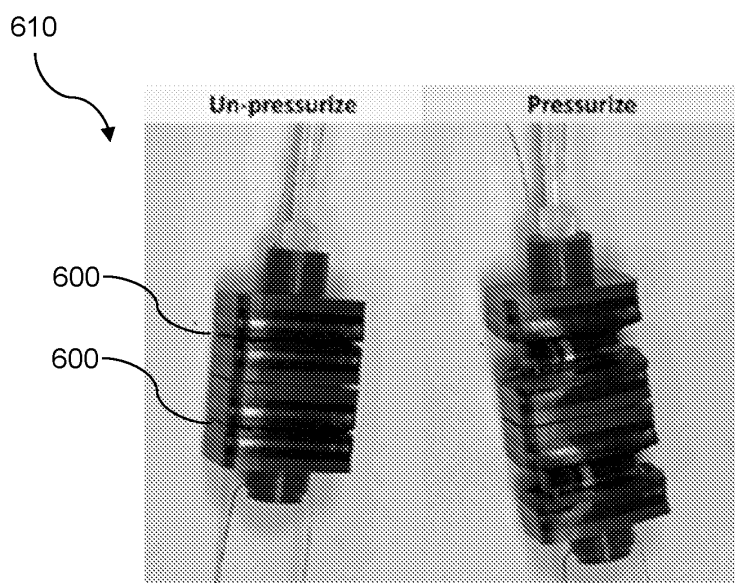


Figure 24

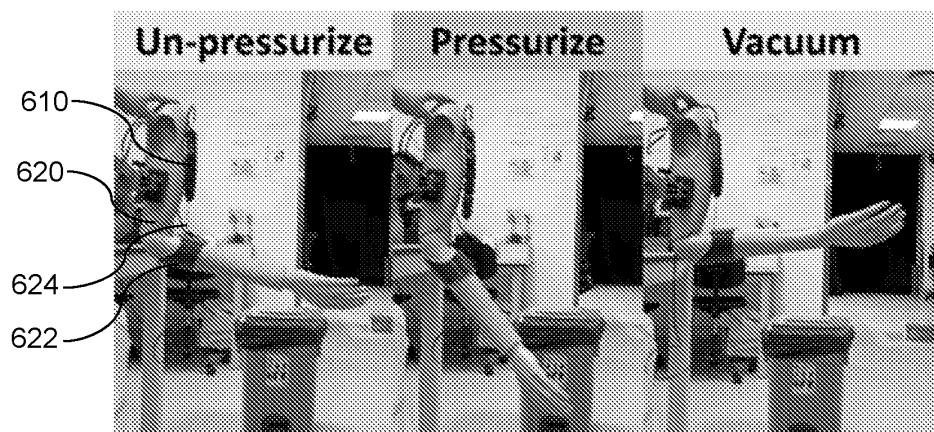


Figure 25

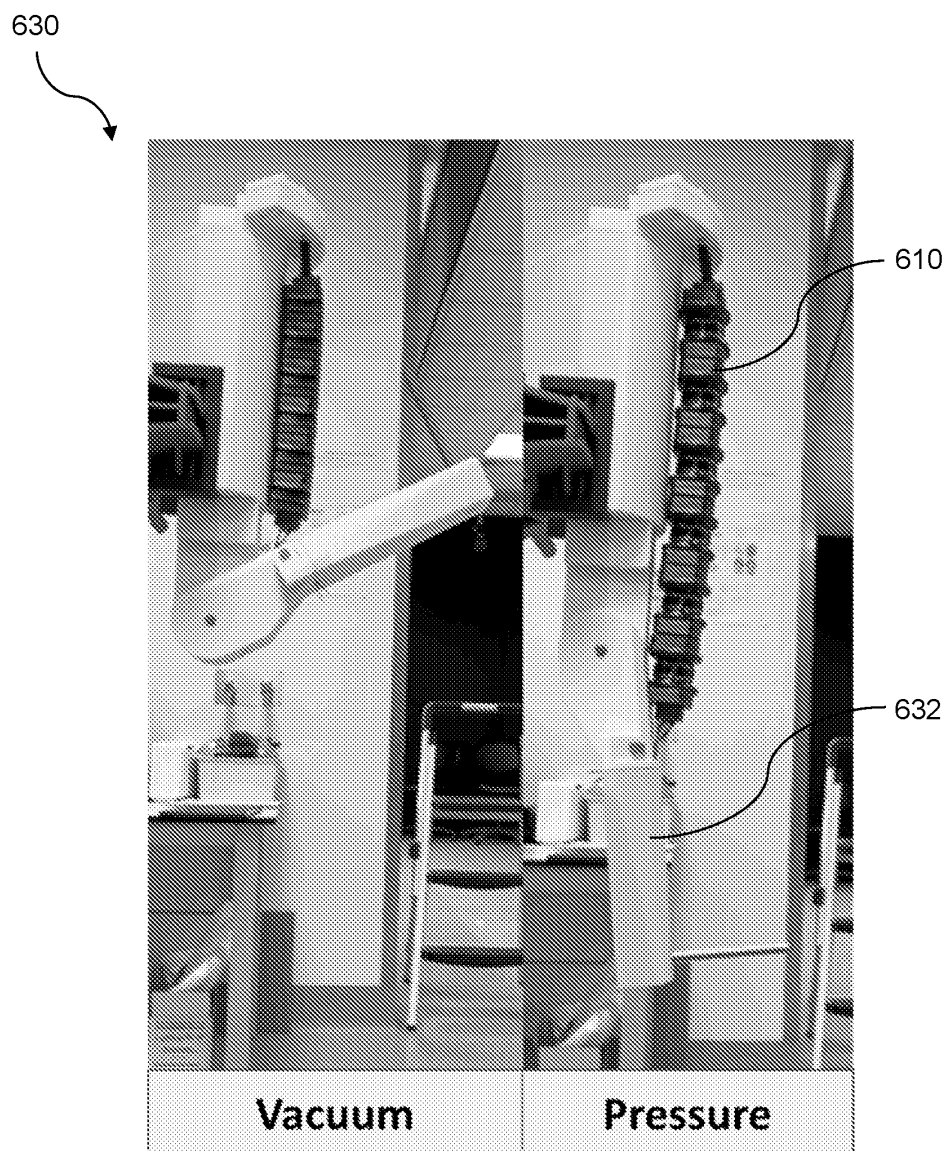


Figure 26

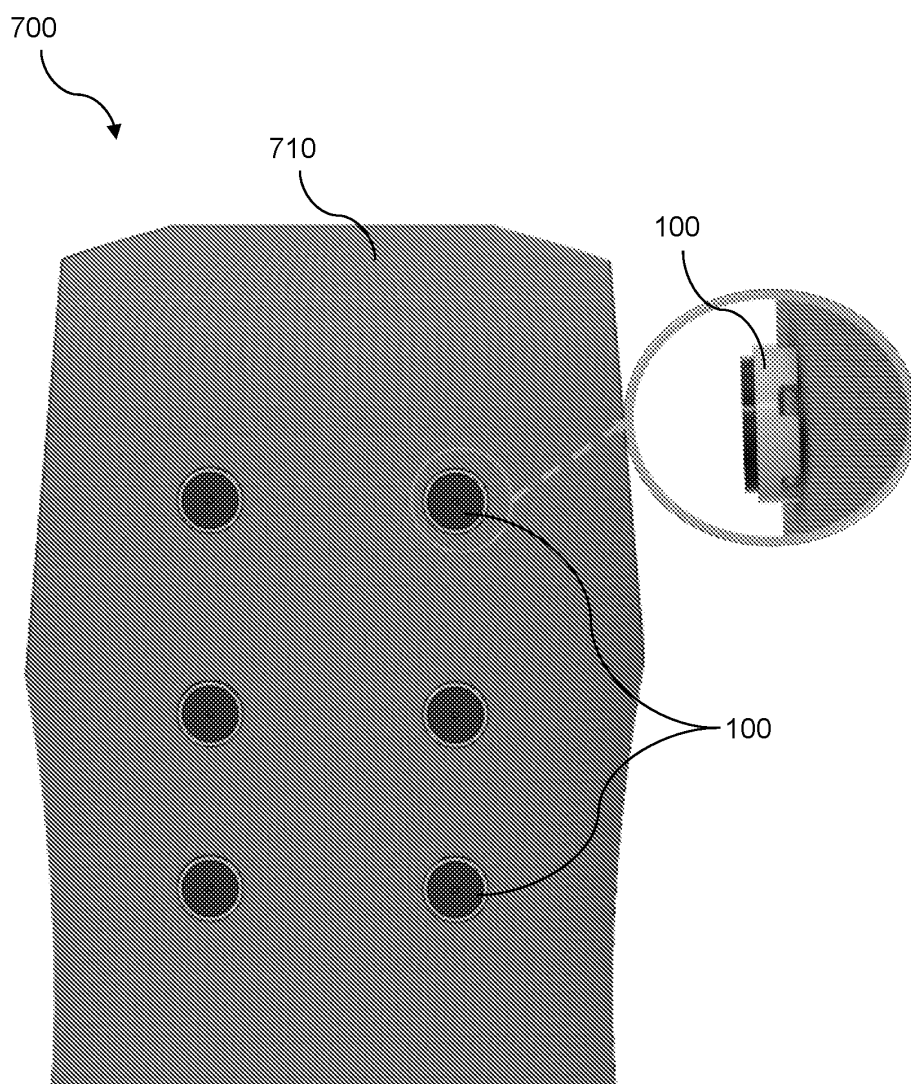


Figure 27