

## opt\_order Libraries

- Library for sorting lists of positions and volumes (sequences and arrays) into optimal order for pipetting with 1ml channels.
- All the sorted lists must be the same length.
- All positions must be accessible by all channels
- For fastest pipetting, you should optimise the sequence that is most dense (i.e. most positions in the smallest physical space on the deck) – any extra lists of positions and volumes will be sorted so that they stay matched up.
- Works with tubes and all plate types (including 384/1536) and repeated positions.
- Dependent only on standard libraries - no installs required
- First sorts positions into stripes in y with increasing x. Then sorts each stripe so that each position is at least 9mm away from the next. Sorting process continues until all positions have been sorted.
- opt\_order\_5ml Library
  - Version for sequence and array sorting where separating distance is 18mm rather than 9mm. Suitable for 5ml channels and 1ml channels on a thin arm.
  - Identical functions to opt\_order library

### OptChannels\_AspDisp2Vol

Sorts two lists of positions and two lists of volumes into optimal order for pipetting with channels.

Sub-method name:  
OPT\_ORDER::OptChannels\_AspDisp2Vol

Description:  
This submethod function two lists of positions and two lists of volumes into optimal order for pipetting with channels. All the lists must be the same length. Use this step if you have aspirate positions, dispense positions and two lists of volumes to be transferred (for example a diluent and a sample).  
For fastest pipetting, you should optimise the sequence that is most dense (i.e. most positions in the smallest physical space on the deck) - the second list of

Sub-method parameters:

	Name	Description	Value	Tr
1	sequence_for_sorting [in/out]	List of positions to be optimised (sequence)	asp_sequence	
2	secondary_seq [in/out]	Secondary list of positions (sequence)	disp_sequence	
3	array_volume [in/out]	first list of volumes (array)	array_sample_volume	
4	array_volume2 [in/out]	second list of volumes (array)	array_diluent_volume	
5	ML_STAR [in/out]	Choose ML_STAR from dropdown	ML_STAR	

OK Cancel Help

Use this step if you have aspirate positions, dispense positions and two lists of volumes to be transferred (for example normalization with aspirate positions, dispense positions, diluent volumes and a sample volumes defined in a worklist).

## OptChannels\_AspDispVol

Sorts two lists of positions and one list of volumes into optimal order for pipetting with channels.

Sub-method name:  
OPT\_ORDER::OptChannels\_AspDispVol

Description:  
This submethod function sorts two lists of positions and one list of volumes into optimal order for pipetting with channels. All the lists must be the same length. Use this step if you have aspirate positions, dispense positions and volumes to be transferred.  
For fastest pipetting, you should optimise the sequence that is most dense (i.e. most positions in the smallest physical space on the deck) - the second list of

Sub-method parameters:

	Name	Description	Value	Tr
1	sequence_for_sorting [in/out]	List of positions to be optimised (sequence)	asp_sequence	
2	secondary_seq [in/out]	Secondary list of positions (sequence)	disp_sequence	
3	array_volume [in/out]	list of volumes (array)	array_sample_volume	
4	ML_STAR [in/out]	Choose ML_STAR from dropdown	ML_STAR	

OK Cancel Help

Use this step if you have aspirate positions, dispense positions and volumes to be transferred (for example, cherry picking with aspirate positions, dispense positions and volumes defined in a worklist).

## OptChannels\_Pos

Sorts a list of positions into optimal order for pipetting with channels.

Sub-method name:  
OPT\_ORDER::OptChannels\_Pos

Description:  
This submethod function sorts a list of positions into optimal order for pipetting with channels. For example, a sequence created from a worklist can be sorted to for optimal use of pipetting channels. Use this step if you have aspirate OR dispense positions.  
Suitable for tubes, 96 well plates and 384 well plates in any position on deck accessible by all the channels. Deals with any number of repeats of a single

Sub-method parameters:

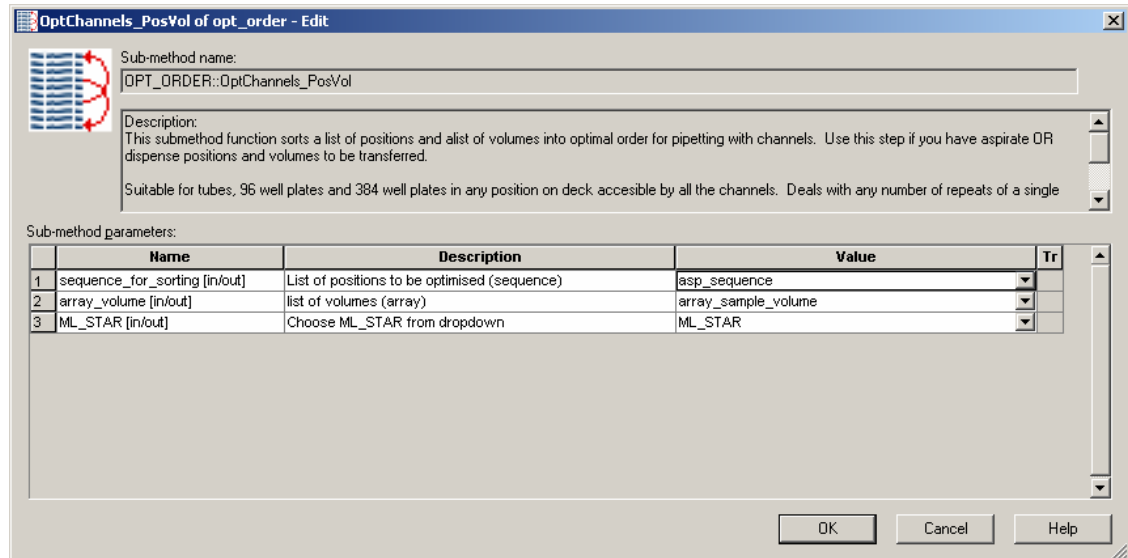
	Name	Description	Value	Tr
1	sequence_for_sorting [in/out]	List of positions to be optimised (sequence)	asp_sequence	
2	ML_STAR [in/out]	Choose ML_STAR from dropdown	ML_STAR	

OK Cancel Help

Use this version if you have aspirate OR dispense positions (for example, cherry picking where only the aspirate position is defined in the worklist).

## OptChannels\_PosVol

Sorts a list of positions and a list of volumes into optimal order for pipetting with channels.



Sub-method name:  
OPT\_ORDER::OptChannels\_PosVol

Description:  
This submethod function sorts a list of positions and a list of volumes into optimal order for pipetting with channels. Use this step if you have aspirate OR dispense positions and volumes to be transferred.  
Suitable for tubes, 96 well plates and 384 well plates in any position on deck accessible by all the channels. Deals with any number of repeats of a single

Sub-method parameters:

	Name	Description	Value	Tr
1	sequence_for_sorting [in/out]	List of positions to be optimised (sequence)	asp_sequence	
2	array_volume [in/out]	list of volumes (array)	array_sample_volume	
3	ML_STAR [in/out]	Choose ML_STAR from dropdown	ML_STAR	

OK Cancel Help

Use this version if you have aspirate OR dispense positions and volumes (for example, cherry picking where only the aspirate position and volume is defined in the worklist).